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Handball Federation of Slovenia

Slovenian Handball Coaches Association

Master Coach Course

Using two or more balls to train certain elements of handball-specific motor skills

Seminar paper

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Abstract

The basic purpose of this seminar paper is to describe a few elements that can be used to train handball-specific motor skills with two or more balls during the course of a training session. I believe this type of exercises can improve technical/tactical handball elements, increase concentration and accuracy of the execution of certain elements and influence the development of certain physical abilities.

Key words: handball, handball-specific motor skills, two or more balls

Contents

1. Introduction

Handball is one of the most popular ball games in Slovenia and worldwide. Due to the variety of motor skills needed by the players, handball belongs to multi-structural complex ballgames. It consists of a number of motor skill units which can be executed with or without the ball. The second essential handball characteristic is its complexity not only in terms of the factors that influence the success of a team, but also in terms of the way the opponents play. The individual activities in handball can be cyclical or acyclical. All motor skills are executed in specific conditions depending on the positioning of the opponents and within the confines of the rules of the game. This is why the selection of certain skills and their execution primarily depend on the situation on the field. Individual players must select those activities that have a positive contribution to the team's success. The success of their activities depends on the structure and development of handball-specific aspects of the psychosomatic status (internal success factors), training environment and other objective factors (external success factors) (Šibila, 2004).

Handball is played by two teams of seven players on the field (except in the case of suspensions) with both teams having seven substitutions. The player roles constantly change between attack and defence based on which team has the ball. The goal of both teams is to score as many goals as possible and to prevent the opponents from scoring. The handball field is a rectangle of 40x20 meters which means that there is 800m^2 of playing surface available. The handball rules define the size of the field, the types and characteristics of the equipment, the roles and duties of players, time limits, how to move with and without the ball, the relationships between various players and sanctions for rule violations (Šibila, 2004).

1.1 Characteristics of a modern handball model

A team's playing model includes basic positioning, movements and cooperation between players in attack and defence as well as the parameters that define the model's success. It must be adapted to the team's abilities. A modern team’s playing model is directly related to playing models of individual players who play a certain position, and this model in turn depends on the players' abilities.

How to select the best practical exercises and tools for maximum development of young players' abilities and skills is an issue that most handball professionals are faced with. Some of the important criteria to take into account when trying to solve it are the demands of the modern handball playing model:

- ✓ Clearly defined roles in all phases of play that are limited by time, space and situation
- ✓ Versatility along with specialization (players must know how to respond in various situations on the field in all phases of play)

- ✓ In attack, focussing on various fast break methods (playing on the whole field)
- ✓ Reducing the time spent in attack
- ✓ Increasing the number of attacking activities without the ball
- ✓ Taking advantage of the space above the goal area in the closing stages of attacks or when actually finishing attacks
- ✓ In defence, focussing on efficient transition into defence and using deep zone formations to prevent shots from distance. There are two independent zone defence schools: some teams outside Europe (primarily from North Africa and Asia) use extremely deep zone defences (1-5, 3-2-1) that often resemble man-to-man defending, while European teams (from Scandinavia, Western Europe) focus mostly on shallow defences (6-0, 5-1) (Šibila 2004).

The development of handball accelerated with astonishing speed in recent years as evidenced by the following characteristics:

- ✓ Players run more and faster
- ✓ New complex technical/tactical elements are cropping up
- ✓ The average number of attacks and goals is higher
- ✓ Less time is lost (i.e. time in a match when nothing is happening)

<u>The reasons for these changes are:</u>

- ✓ Changes of the rules of the game (throw-off, passive play etc.)
- ✓ A high number of professional and semi-professional clubs and competitions
- ✓ Emergence of new theoretical and practical aspects of handball training (Šibila, 2002)

A proof of these trends can be found in the statistical analyses of team efficiency at the highest national team or club level:

- ✓ The number of attacks has increased (teams have up to 60 or more attacks per match: the final match of the 2003 World Championships saw 61 attacks per team and is still considered the fastest final match of all time)
- ✓ More goals are scored per match (30-35)
- ✓ Teams spend less time in attack (attack preparation and slow attacking play with lots of interruptions are a thing of the past)
- ✓ An ever greater number of goals are scored from fast breaks
- ✓ About 60% of all attacks start with a fast break (Pori, 2005)

In modern handball, it is not enough to control the ball, teams must be able to dictate the tempo of the game (for the whole match, if possible) (Veraja, 2001).

<u>Development trends in defence:</u>

- ✓ The most frequently used defensive systems are: 6-0, 5-1 and 3-2-1

- ✓ Defensive systems are becoming more flexible and are adapted to opposition
- ✓ Teams use adaptive defences that take advantage of individual abilities of defenders
- ✓ It has become harder to pass the ball to line players
- ✓ Players have better footwork and better arm movements, and increased spatial orientation was also observed
- ✓ Teams return to defence immediately after scoring a goal
- ✓ Immediate transition to defence to prevent fast breaks as well as better fast break prevention tactics
- ✓ Better individual abilities of defenders offer flexibility in terms of tactical strategy
- ✓ Defences have two specialist shot blockers

<u>Development trends in fast breaks:</u>

- ✓ Winning the ball in defence results in a fast break
- ✓ Fast break roles are clearly defined
- ✓ Fast breaks are simple with one (or two) passes
- ✓ The first wave has one or two players
- ✓ The second wave follows immediately
- ✓ Instead of the goalkeeper, the first defender or the defender in the middle passes the ball to one of the players in the first wave; however, this strategy has seen limited success at the highest level.

<u>Development trends when attacking a zone or combined defence:</u>

- ✓ Passing the ball to the line player off the floor - in difficult situations as well
- ✓ Using various fast passes (volleyball-style setting, zeppelin passes)
- ✓ Reducing the number of bad passes increases the chances of winning
- ✓ An increased number individual technical elements (e.g. catching the ball with one hand)
- ✓ A high number of players who are good in one-on-one situations and are able to draw other defenders onto themselves
- ✓ An increased number of accurate passes even under defensive pressure
- ✓ An increased number of attacks involving the entire team
- ✓ Less time spent per attack
- ✓ Players execute 4-5 passes before starting with attacking activities
- ✓ A greater number of one-on-one situations against aggressive defences
- ✓ Attacking strategy generally consists of one-on-one and two-on-two situations
- ✓ Even when defenders successfully stop fast breaks, attackers often use tactical set-plays to score a goal in extended fast breaks (typical characteristics are short crosses between backcourts and wingers, fast tempo with lots of goals, attacking formations 3-3 and 4-2 (Perčič, 2009).

1.2. Handball structure

Handball is a multi-structural complex ballgame. It consists of many individual elements (structures, technical/tactical elements and basic or handball-specific motor skills); players perform them in complex combinations in cooperation with teammates and when trying to outsmart opponents. Teammate cooperation (and its prevention in defence) consists of various situations (or set-plays) that can be typical (they can only appear sporadically or appear in an unexpected way, so that players don't recognize them as such). Handball can be defined by phases (Šibila, 2004).
The basic definition consists of **two main phases:**

- ✓ Defence - the opponent has the ball and the team tries to prevent them from scoring a goal
- ✓ Attack - the team has the ball and tries to score a goal

Defence can be broken down into *two subphases*:

- Transition subphase when players are returning into defence in an organized way to prevent the opponents from carrying out a fast break. Their objective is to position themselves according to the agreed-upon defensive system (man-to-man, zone, combined) in the least amount of time.

- Defending subphase when teams use zone, man-to-man (it can also be used during transition after losing the ball - teams defend in an organized way without an agreed-upon zone of combined positioning) or combined defences.

Attack can also be broken down into *two subphases*:

- The fast break subphase - it can involve a single player, a group of players or the whole team. Modern handball has also seen the emergence of the "extended fast break" which is used when the defenders have already returned to their goal area line but haven't yet formed a defensive formation.

- The attack subphase when teams attack a zone or combined defensive formation (Šibila, Bon, Pori, 2006).

1.3 Handball technique and tactics structure

The structural elements of handball are called technical/tactical elements or handball-specific motor skills. "Technical" describes the fact that they are executed according to biomechanical laws that enable optimal execution. "Tactical" described the fact that they are always executed with a certain tactical goal in mind (to pass or shoot accurately is a complex technical/tactical task). In practice, the technical and tactical aspects of an individual element are dealt with

together as they are naturally connected and cannot be separated one from another in the game.

The tactical and technical structures in handball can be roughly divided into attacking and defensive activities. This seminar paper places more attention on attacking activities, so I will describe the technical and tactical aspects of handball attack in greater detail.

The technical attacking structures can be further divided into those performed without the ball (various positions, walking, transition to running, running, stopping, changing direction, turning, jumping, diving and getting back on your feet) and those performed with the ball (various positions, dribbling, catching, passing, shooting, faking, feinting, screening) (Šibila, 2004).

The tactical attacking structures can be divided into individual (player movement, foul evasion, shots, feints), group (moving into open space, crossing, screening and moving into the open space, double passes, running up and passing) and collective (fast break, delayed fast break, attack against a zone or combined defensive formation, with one line player, with two line players, special situations, numerical advantage, numerical disadvantage, playing without a line player, free throw) (Šibila, 2004)

1.4 Handball motor skills

The structural elements of handball can also be called handball motor skills. This includes all activities that are carried out by players while playing handball. We distinguish between the *basic*, which include activities without the ball (running and other movements, jumping, diving, getting back up etc.), and *handball-specific* motor skills, which include all activities with the ball (passing, shooting, ball collecting, feinting etc.)

2. Subject

In handball training, players often practice in small groups to improve a certain handball-specific motor skill. These exercises can be included in the initial phase of a training session which is dedicated to warming up, learning and repeating various technical/tactical elements, as well as in the phases dedicated to improving certain physical abilities. This seminar paper aims to introduce a few exercises that focus on attacking activities and can be executed in small groups with two or more balls. I believe these exercises will improve certain technical/tactical elements (piston movement, passing, moving into open space without the ball) as players will be able to perform more repetitions, as well as contribute to the development of certain physical abilities (coordination, agility, speed endurance).

3. Main part

In accordance with the subject of the seminar paper, I have sorted the group activities with two or more balls in the following categories:

1. Group activities with two or more balls: Basic ball-games
2. Group activities with two or more balls: In pairs with and without movement
3. Group activities with two or more balls: Attacking on one goal (groups of three, four, five players)
4. Group activities with two or more balls: Groups of three or four players moving along the field
5. Group activities with two or more balls: Shooting on goal

3.1 Group activities with two or more balls: Basic ball-games

1. EXERCISE

6 players are taking part. Four of them are standing in a square (Figure 1 and 2). Each of them has a ball and they are continuously skipping in place. The other two players are inside the square (i.e. playing field). One player is a defender and the other is an attacker. The attacker tries to exchange passes with as many players standing in the corners of the square as possible. The defender tries to intercept or prevent the passes. The roles are changed after 30 seconds and the game continues until all six players have done their turn.

Figure 1

Figure 2

2. EXERCISE

Two teams of 6 players are positioned in one half of the field (Figure 3 and 4). Each team has one ball and they try to make as many passes as possible. At the same time, they try to intercept the passes of the opponents; if they are successful, they can keep the ball and use it until the other team wins it back. The purpose of this game is that both teams must play attack and defence at the same time.

Figure 3

Figure 4

3. EXERCISE

Both teams are again in one half of the field; one plays attack and the other defence. The attackers have three balls and they are exchanging passes among themselves. When they lose all three balls, the roles are reversed. When the defenders win a ball, the attackers continue until they have no balls left. A ball is lost when the opponents intercept a pass, when the attackers throw it out of bounds, make a travelling violation, play it with a leg or perform any other technical mistake. The attackers cannot dribble and have only three steps available. The coach times the exercises to see which team was in possession of the ball longer. The attacking and defensive rules can be adapted (jump passes, passing with the right or left hand, the defenders must try to foul the attackers, fouls are not allowed).

Figure 5

3.2 Group activities with two or more balls: In pairs with and without movement

1. EXERCISE

Two players are standing about two meters apart facing each other. One player has two balls and is passing them to the other player with the left and right hand.

Figure 6

2. EXERCISE

Each player has one ball and they are exchanging passes with both balls. They pass the ball with the right hand only and receive it with the left hand only.

Figure 7

3. EXERCISE

Each player has one ball. They pass the ball with the right hand only and receive it with the left hand only. When they receive the ball, they move it into the right hand behind the back and then pass it to the other player. The hands are reversed after a few repetitions.

Figure 8

Figure 9

Figure 10

4. EXERCISE

One ball is passed with hands and the other with feet. Additionally, players can pass or receive the ball with the right or left hand only.

Figure 11

5-8. EXERCISE

Exercises 1-4 are repeated in movement.

Figure 12

Figure 13

Figure 14

Figure 15

Figure 16

Figure 17

Figure 18

Figure 19

3.3 Group activities with two or more balls: Attacking on one goal (groups of three, four, five players)

1. EXERCISE

Players are standing in three lines on back positions. One line is on the left back (LB), one is on the centre back (CB) and one is on right back (RB) position. There are two goalkeepers in the goal. One of them has a ball. The LB starts approaching the goal with a ball and then passes it the CB. The CB also makes an approach and passes the ball to the RB who in turn passes it to the goalkeeper without a ball. The goalkeeper who held a ball from the beginning passes it to the RB who immediately makes an approach in the other direction - this allows us to train piston movement in both directions with two balls. After finishing the approach and passing the ball on, players vacate their position for the next teammate in the line. They return to the start of the line and perform various running exercises along the way.

Figure 20

2. EXERCISE

We now use two line players (LP) instead of the goalkeepers. Both are standing at the goal area line - one on the left and the other on the right. Both LPs have balls. The LB starts approaching the goal with a ball and then passes it the CB. The CB also makes an approach and passes the ball to the RB who then exchanges passes with the LP. The approach continues towards the left. The LB and LP exchange passes and the ball again start travelling in the opposite direction.

Figure 21

3. EXERCISE

The exercise is repeated again, but this time we use two wingers (LW and RW) instead of the line players. They both have one ball and the ball is again travelling from left to right and back.

Figure 22

4. EXERCISE

Three players are positioned at LB, CB and RB. The CB and LB both have balls. The CB crosses the ball to the RB and the LB passes the ball to the CB who has just arrived at the RB position. The RB, who is now at the CB position, then crosses the ball to the LB. After a cross, the player not involved always passes the ball to the other side and this sequence is repeated a few times.

Figure 23

Figure 24

5. EXERCISE

One player is at the position LW and another one is at the position RW; they both have balls. The rest are standing in two lines at the LB and RB positions. The LB makes an approach on goal with the ball and then passes it to the RB. The LB then runs around the cone without the ball and exchanges a double pass with the LW. The LB turns around, sprints towards the centre and returns in the line. The RB approaches the goal and passes the ball to the LB. The RB runs around the cone without the ball and exchanges a double pass with the RW. The RB turns around, sprints towards the centre and returns in the line.

Figure 25

Figure 26

Figure 27

6. EXERCISE

One player is at the position LW and another is at the position RW. The rest are standing in two lines at the LB and RB positions. The LB crosses the ball to the RB, then runs around the cone without the ball and exchanges a double pass with the RW. The LB turns around, sprints towards the centre and returns in the line. The RB crosses the ball to the LB and repeats the same sequence as the LB on the other side.

Figure 28

7. EXERCISE

Players are standing at LW, LB, CB, RB and RW positions. The LB and RB both have balls. The LB passes the ball to the LW. As the LB starts moving towards the RB, the RB passes the ball to the RW. In the meantime, the CB moves to the vacated LB position and exchanges a double pass with the LW. The RB moves towards the CB. In the meantime, the LB moves to the vacated RB position and exchanges a double pass with the RW. The exercise ends after a certain span of time.

Figure 29

Figure 30

8. EXERCISE

Players are at the LW, LB, CB, RB and RW positions and there are also two line players in front of the LB and RB. The LW, RW and CB have balls. The CB passes the ball to the LP standing in front of the LB and then exchanges positions with the LB. The CB exchanges a double pass with the LW and the LB receives the ball from one LP and passes it to the other LP (in front of the RB). The LB exchanges positions with the RB. The LB exchanges a double pass with the RW and the RB receives the ball from one LP and passes it to the other LP (in front of the LB).

Figure 31

Figure 32

3.4 Group activities with two or more balls: Groups of three or four players moving along the field

1. EXERCISE

Players are at the LB, CB and RB positions. The CB and LB both have balls. The CB crosses the ball to the RB. The RB, who has now arrived at the CB, exchanges passes with the LB. Afterwards, the CB again immediately crosses the ball to the RB and then the sequence is repeated until the players reach the other side of the field where they shoot on goal. It is important to maintain width and perform the exercises at the highest possible speed. After a few repetitions, the directions are reversed and the CB crosses the ball to the LB and the passes are exchanged with the RB.

Figure 33

Figure 34

2. EXERCISE

Players are at the LW, LB, RW and RB positions. The LB and RB have balls. They pass them to their respective wingers at the same time (LB to LW, RB to RW) and exchange positions without the ball (the LB runs to the RB position, and the RB runs to the LB position). They exchange a double pass with the wingers and again exchange positions at full speed. The LW and RW run in a straight line along the edge of the field to the other side. At the end, the wingers shoot from the both wings.

Figure 35

3. EXERCISE

Players are at the LW, LB, RW and RB positions. The LB and RB have balls. They pass them to their respective wingers at the same time (LB to LW, RB to RW). The wingers immediately return the balls and the LB and RB exchange positions with the balls (the LB runs to the RB position, and the RB runs to the LB position). They exchange a double pass with the wingers and again exchange positions at full speed. At the end, the wingers shoot from the both wings.

Figure 36

4. EXERCISE

Groups of three players (CB, LB and RB) are running in a straight line towards the other side of the field. The LB and RB both have balls. The LB passes the ball to the CB who immediately returns it, and then the RB passes the ball to the CB who again immediately returns it. At the end, the LB passes the ball to the CB who does not pass the ball back but rather crosses with it and the LB shoots on the goal. After the LB's shot, the CB receives the ball from the RB and again does a crossing, so the RB can shoot on the goal as well.

Figure 37

Figure 38

Figure 39

5. EXERCISE

Groups of three players (CB, LB and RB) are running in a straight line towards the other side of the field. The LB and CB both have balls. The LB passes the ball to the CB who immediately returns it. Then the RB passes the ball to the CB who again immediately returns it. At the end, the LB passes the ball to the CB who does not pass the ball back but rather crosses it and the LB shoots on goal. After the shot, the LB takes on the role of a defender and waits for the CB to cross the ball to the RB. The RB tries to score in a one-on-one situation against the LB now playing defence.

Figure 40

Figure 41

Figure 42

6. EXERCISE

Three groups of three players are needed for this exercise. Two groups are on one side of the field and one is on the other side. One of the two groups is positioned at the goal area line, the other is behind them. On the other side, the three players are also positioned at the goal area line and they all have a ball. The first group of three players on the other side has one ball, while the second group, who are standing behind them, has three balls. The group with only one ball starts executing the "criss-cross" exercise (the CB passes the ball to the LB and runs towards him, the LB passes the ball to the RB and runs towards him, the RB passes the ball to the CB and runs towards him and so on until they reach the other side). At the end, the player at the CB position shoots on goal. The LB receives the ball from a defender and tries to score in a one-on-one situation. Then the RB receives the ball from another defender and tries to score in a one-on-one situation. The group with three balls has only one ball left. They start executing the "criss-cross" exercise towards the other side. At the end, the CB shoots on goal. The LB and RB again try to score in a one-on-one situation. The group in defence is left with only one ball and they proceed to the other side. This sequence is repeated for some time.

Figure 43

Figure 44

Figure 45

Figure 46

3.5 Group activities with two or more balls: Shooting on goal

1. EXERCISE

Players are at the LB, RB and CB positions. The CB has two balls. The CB approaches the goal and passes one ball to the LB; then he returns back to the starting position and passes the other ball to the RB. The RB passes the ball back to the CB who shoots on goal from the ground; immediately after the shot, the CB returns to the starting position, receives the ball from the LB and executes a jump shot. A defender is trying to block the shots on the goal area line.

Figure 47

2. EXERCISE

Players are at the LB, RB, CB and LW positions. The CB has two balls. The CB approaches the goal and passes one ball to the LB; then he returns back to the starting position and passes the other ball to the RB. The LB passes the ball to the LW. The RB returns the ball back to the CB who shoots on goal. In the meantime, the LW passes the ball back to the LB who crosses with the ball with the LW. The LW passes the ball to the CB, makes a run to the line, receives the ball back from the CB and shoots on goal. A defender is trying to block the shots at the goal area line.

Figure 48

3. EXERCISE

Players are at the LW, RW, CB and LP positions. A defender is positioned with the LP. Every player has one ball, except the defender. The CB dribbles towards the RW; they exchange passes and the RW shoots on goal. The CB then dribbles towards the LP; they again exchange passes and the LP tries to score in a one-on-one situation against the defender. The CB then dribbles to the LW; they again exchange passes and the LW shoots to the goal. Then the CB passes the ball to the defender. The defender passes the ball back and the CB shoots to the goal.

Figure 49

Figure 50

Figure 51

4. EXERCISE

Players are at the LW, LB and CB positions. The LW has one ball and the LB has another one. The LB approaches the goal and passes the ball to the CB. Then the LB receives the ball from the LW. The LB passes the ball back and the LW shoots to the goal. After the LW has shot, the CB crosses with the ball with the LB who shoots to the goal.

Figure 52

5. EXERCISE

One player is at the RB position, the others are in groups of three. The groups must consist of LW, LB and CB. All balls are at the RB position. The RB passes the ball to the CB who approaches the goal and passes the ball to the LB. The LB in turn passes the ball to the LW who shoots on goal.

Figure 53

Figure 54

Figure 55

4. Conclusion

This seminar paper describes elements that can be used to train handball-specific motor skills with two or more balls during the course of a training session. The content is logically divided in multiple parts according to complexity (from less to more complex exercises) and tactical purpose (developing movement with and without the ball, passing, shooting).

I believe this type of exercises can improve technical/tactical handball elements, increase concentration and accuracy of execution of certain elements and influences development of certain physical abilities, in particular coordination and agility.

These exercises are particularly useful when we want the increase the exercise repetition frequency which is often for efficient handball training sessions.

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HANDBALL FEDERATION SLOVENIA

Association of Slovenian handball coaches

Training for the title: Master Coach

Heart rate as an indicator of the amount of effort in handball players when playing different types of games (Games in a small space – Small games)

(Seminar paper)

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Celje, 15 06th 2013

SUMMARY

Small-sided games in handball are less developed and relatively unknown. In soccer, rugby, partly in basketball and hockey in recent years it has become very popular, particularly in relation with physical preparation. In foreign literature it can be found under the title of "Small-sided games".

Handball game in a small area contains elements of handball sports; we manipulate with the size of the field, the number of players, playing duration and duration of the break. This is all focused to achieve different objectives: younger players learning techniques and tactics of the game; with elderly players, development of physical abilities, the development of specific technical and tactical skills and abilities in difficult or eased circumstances.

There were five different games presented and played in a small space with optimized targets (2:2:2 game (1); game 3:3 (2); 4:4 game with simultaneous Interval runs (6 x 70 m) of the third group (3); game 2 x 3:3 (4); game 2 x 2:2 with agile polygon third group (5)). Measurement of heart rate was done with the help of pulse timer – The PolarTeam2 Pro. For the processing and graphical display of data Office Excel program has been used. Average heart rate values are shown and have ranged during the games from 152 to 164 beats/min, the only exception has been game 3:3 (172 beats/min). The subjects being measured were most of the time in the area of maximum effort. In the game 3:3 with optimized results even more time was spent in the area of maximum effort. Similar results were also obtained in both forms of interval runs, where the share of maximum effort was largest

In addition to physical condition abilities, in the game plays shown, the trainees also developed technical and tactical skills needed for the handball game. According to the findings, the game plays can then be used as a means for development of different skills.

Keywords: handball, physical preparation, small-sided games, heart rate, effort.

1 INTRODUCTION

The game of handball is one of the more dynamic sports games, it offers satisfaction and happiness and is related to successful results. In the time gone by it has changed a lot. The players have got taller, faster, stronger, more conditioned and technically and tactically more advanced. With the development of the handball game, the development has also taken place in the approach and style of training for handball. Traditional views in which technical-tactical training was conducted entirely separated from the fitness somehow go into oblivion. In higher levels of sport there is a constant search for new ways to improve your performance. Handball game in itself has a positive impact on improving movement skills as well as functional and metabolic processes of the handball player. The game analysis shows that the handball players are constantly in motion, while the organism is supplied with both aerobic and anaerobic energy processes. Specificity in handball is also the result of the mutual cooperation (technical and tactical communication) between members of the group, which also largely influences the final result. Thus, there is no doubt that handball requires a good physical condition and preparation, and a wide range of technical and tactical skills and abilities (while, of course, not forgetting the importance of psychosocial and other preparations). The gaming methods simultaneously develop both technical and tactical elements, as well as physical abilities. Because everything is happening during the game, the motivational component is greater than it would be if those areas were tackled separately. In football and in rugby, for this purpose they use various forms of small games that can be detected in the foreign literature under the name of "Small-sided games". These contain elements of (technical and tactical) individual sports, but also enough to cause great stress on the organism, which helps with improving the physical abilities of athletes.

During physical exertion in the body, there is an increase for the need of oxygen supply and energy-rich substances, and to accelerate the elimination of by-products. In order to allow the organism to continue and overcome the load, it must cope with the new requirements as fast as possible and establish a state of stability. During adaptation an essential factor is the increased blood flow which is reflected as a result of increased heart rate. With increasing load, heart rate is increased proportionally. This holds true for sub-maximal loads.

Measurement of heart rate during a game can be used for the description of the intensity and also the grading of energy consumption if we compare individual heartbeats and ratio of oxygen consumed. (Bangsbo, 2006, in Bon, Bračič, Šibila and Pori, 2011).

1.3 HEARTBEAT

The heart is the main and most important organ in the body, a pump tirelessly driven by blood. Its work enables the exchange of substances, which is the basis for all physiological processes in the body. The heart is a part of the cardio-vascular system, consisting of the heart, vascular (arteries and veins) and capillaries. The heart muscle is characterized by large, fast conductivity response to the "all or nothing", a period of refractoriness and rhythmic pulse generation (self-excitability) (Lasan, 2002).

The heart by beating, squeezes the blood in the system and facilitates pulmonary circulation (Plut, 2002). The work of the heart is reflected through the cardiac output and the mean amount of blood flowing through the heart system per minute (Lasan, 2002).
Heart beat frequency (pulse) in the state of rest is a result of balance between sympathetic excitement and parasympathetic situation. The heart activity is also influenced by various hormones, electrolyte imbalance, various ions, as well as various physical factors such as age, gender, physical work, temperature (Plut, 2002).

Measurement of heart rate is fairly well established within the training and matches. It is measured by heart rate monitors (classical conditioning with a strap transmitter and wrist watch). In individual sports, its use is somewhat higher than in team sports. The reasons are mainly of a practical nature. If we connect the measurement to handball, the meter itself and its position on the wrist is quite a problem. It is particularly dangerous in contact with the opponent. This is also the reason that its use in the game is prohibited by rules. Some players are simply disturbed by it and thereby it adversely affects the training itself. In addition, for the players to monitor their heart rate during playing the game is difficult as they have to focus on the other elements of the game. Even more difficult it is to monitor the heart rate of a coach. This, of course, it makes it impossible for the coach to give the players the relevant instructions and guidance (adapted from: Bračič and Bon, 2010).

This is also the view of Emberšič, Mišmaš Pintar and Kavčič (2006, in Kadivnik, 2013), who have used the heart rate monitors and measured level of intensity during training football. It was argued that with the runners it was relatively easy to determine what is the exercise intensity depending on heart rate, while within collective games it is much more difficult. The greatest limitation in their view, was the fact that the heart rate monitor was an inconvenient gadget that could hurt the opponent upon contact. They say that the current practice shows that in the exercises that are carried out with the ball it is difficult to know exactly at what level of pulse each individual trains. From this result, it is difficult to individually load the sports personnel and achieve the desired effective result.

1.2 TEACHING METHODS

The methodology of learning and training in sport games also uses various methods of intervention, in addition to providing information provide an adequate dynamic exercise. This ensures the simultaneous development of basic motor skills and specialized player, his stamina, technique and basic tactics in training, and an additional impact on the development of the entire psychomotor status of the exercising. In handball exercises several methods are used at the same time by the coach adjusted according to age, ability and knowledge of children, and working conditions. Above all, it is practical to use the synthetic method and the method of play (Šibila, 2004).

1.2.1 PLAYING METHOD

The Playing method is the most natural, because handball game teaches and develops capacities through elementary games, adapted games, or the real handball game. This method provides relaxation, joy, emotional perception; the motivation is high, individuality is

sufficiently emphasized, the diversity of solving a game situation is higher and so on. Disadvantages of the method can be seen in excessive individuality, automatically incorrect implementation of technical-tactical elements, and incorrect design of mutual communication in a game (tactical solutions) (Šibila, 2004).

There are several types of games and each has a different distribution of the content, the role and importance. Pavčič and Šibila (1991), they have split the game play into four main groups:

1. catching,
2. passing games,
3. elementary games,
4. games with specially adapted rules.

The first two largely influence primarily on the development of physical abilities, but the other two, especially the last one also includes technical and tactical aspects of the game of handball.

For these games it is characteristic that they are played on the same or reduced playing surface as the handball court, often with a smaller number of players and different rules of the game.

1.3 GAMES IN A SMALL AREA

In foreign literature similar such games in a small area are tailor made to individual sports, and can be found under the heading "Small-sided games". In recent times, they are very popular, especially in football, rugby, partly in basketball and hockey. In handball, they are less developed and present a great potential, particularly in terms of physical preparation. Pavčič and Šibila (1991) have provided some examples of games with adjusted rules, but these were practiced primarily for introducing new players to the game of handball.

Games in small area include basic elements of the sport, with which we manipulate the size of the playground, number of players, duration of the play and style of rest interval, all with the intention of achieving the various goals. For example, younger players for learning of techniques and tactics of the game (introduction only into the handball game); with elder players for the development of physical condition abilities, development of specific technical and tactical knowledge and the ability to perform in difficult and easy situations.

Small-sided games are used by football coaches in general for the development of technical-tactical abilities. They are evermore being used also for the development of aerobic endurance (Hill-Haas, Coutts, Rowsell and Dawson, 2008; Rampinini et al. 2006, in Hill-Haas, Dawson, Coutts and Rowsell, 2009). Given the limited time that the team dominated sports have for conditional preparation, it is important that the small sided games are optimized to be able to be used as a means of development of conditional training. To do this we need to understand better what is the physiological response of the organism in these games (Hill-Haas et al., 2009).

With reference to stress very little research has been carried out. In Slovene literature in the field of handball I could not find any. In foreign literature, there are several of these studies, a little more in the sport of handball, but just much more in football and rugby.
Buchheit and colleagues conducted a study in 2010, whose aim was to compare the effects of the combined training for strength and speed (complex training) as compared to highly intensive aerobic training (specific handball exercises for the development of aerobic endurance) with the athlete's performance and ability to repeat sprints in handball training exercises. The athlete's performance and ability to repeat sprints in young handball players were trained. The survey covered twelve highly trained handball players aged 12 to 14 years. Randomly they were divided into two groups. The first group carried out a complex strength training and speed in the second group the exercises were performed with adapted rules of the game. The study lasted for ten weeks. The results showed that both types of training have a positive effect on athletic performance and the development of physical abilities related to repeated sprints and jumps. Given the fact that the game of handball is characterized by high intensity aerobic load and the game itself includes spontaneous jumps, sprints and throws, there are opinions that in the period pre-puberty effect handball games with adjusted rules is even more. The authors concluded that the mentioned training in a training process of a young handball player has an important role.

Similar opinions are shared by Foster, Twist, Lamb and Nicholas (2010), who believe that the playing of games in a small space is a very effective tool for the development of an athlete's aerobic capacity, because this can also be used as part of interval training. In addition, it can be adapted to different requirements from the point of view of both fitness and technique and tactics. The training is in this way more specifically oriented and also the motivational component is present due to the presence of the ball. In the article they also speak about research that was done in Australia that showed that games in a small space are very effective as means of development of aerobic capabilities compared to traditional training. The research was carried out in a preparatory period on group youth and other members of a rugby league and was implemented 2 times per week for 14 weeks (Gabbett, 2006, v Foster idr., 2010). Similar results were shown by the 9 week training of games in a small space by the combination of professional rugby players in the pre-competetion period (Gamble, 2004, v Foster idr., 2010).This was evedince for Foster that small sided games are effective in terms of development of aerobic conditioning.The intensity of these games can be adapted or metered in various ways, such as: the number of players, field size, type of game, game rules, etc. .. In addition, it is suggested that by using the pulse timer monitors the relative proportion of the maximum heart rate of each player should be monitored.

In reviewing studies that have analyzed the loads that were imposed on the rugby league matches it was found, that they suggest the following training areas: low intensity (<70% FS max), medium intensity (70-85% FS max) and high intensity (> 85% FS max) (Coutts, Reaburn and Abt, 2003, Foster et al., 2010). To have a game with rules adapted in such a way as to have a significiant impact on the development of aerobic endurance, players must train in the area of high intensity (> 85% FS max). Foster et al. conclude that this is important for players conditional and technical-tactical perspective. At the same time they argue that the literature available for this perspective is very little.

In the field of football Hill-Haas, Dawson, Coutts and ROWSELL (2009) studied the acute physiological response of the organism and timing properties associated with three different games in a small area with young players. Involving 16 young soccer players aged 16.3 ± 0.6 years. They played three games in a small area (the game 2:2, 4:4 and 6:6), during which they

recorded heart rate, level of effort (RPE), blood lactate concentration and timing properties. Size of the field is adapted to each game mode, so that the relative area of the playground per player should be monitored and remain similar. The results showed that minor forms of these games (game 2:2 and 4:4) in the players provoke a higher average heart rate, and also that the players have spent more time at a higher level of training. In addition, some mentions are to previous studies that have shown that the physiological responses (eg heart rate, blood lactate concentration and assessment of the level of effort (RPE)) and technical-tactical requirements between games in a small area vary due to various factors such as the change in size of the field, the number of participants, the rules of the game and the coach stimulation (Grant, Williams, Dodd and Johnson, 1999, Grant, Williams and Johnson, 1999b; Mali and Williams, 2006, 2007, Owen, Twist and Ford, 2004; Platt, Maxwell, Horn, Williams and Reilly, 2001, Williams and Owen, 2007, Hill-Haas et al., 2009)). At the end, they said that the smaller formats (2:2 and 4:4) of games in a small space are more suitable for higher physiological stress, while the larger formats of the game (6:6) can be used to improve specific trends in football .

To better understand the problem, which reccurs in the main part of the seminar, I have given below some basic information pertaining to energy and metabolic processes during sports exertion and shown the structure of the load and effort during the handball match.

1.4 ENERGETIC OR METABOLIC PROCESSES DURING SPORTS EFFORT

Athletes overcome a variety of loads in training and matches with different effort. When this is happening in the body of an athlete different energetic metabolic processes are taking place.

Aerobic energetic processes are characterized by the fact that for the preservation of the levels of ATP exploitation of two types of fuel is done, namely those derived from carbohydrates (glucose and glycogen) and those resulting from fat. Such processes dominate the effort during low intensity (aerobic effort). What type of fuel is predominant in these efforts depends on the speed of recovery decomposed ATP, availability of fuels within the muscles, the availability of fuel to be transferred from the blood into the muscle, and regulation of metabolism by hormones (Ušaj, 2003).

Anaerobic Lactic energetic processes are based on the decomposition of glycogen stored in the muscles (glycogenolysis). Such processes occur during the efforts that go beyond the level of lactate threshold (aerobic-anaerobic effort), and only during the efforts which exceed the maximum rate of oxygen consumption (VO2 max) (anaerobic-aerobic effort). These efforts are valid for medium and high intensity, during which the starting lactate content in the blood increases.

The foundation of anaerobic energy processes alactic degradation of kreatinfosfata (CRP). Such processes occur during at the highest intensity and effort that can be exploited all the way up to 10 seconds. CRP in this kind of effort is spent very quickly. In this way, a constant ATP is maintained up to the moment when the CRP is reduced to a critical point at which the ATP begins to decrease. This leads to rapid onset of fatigue.

If we connect this with the handball game, a high level of development of the aerobic energy system enhances the function of the cardiovascular system and the transport of oxygen

throughout the body (most of the energy is therefore restored after an aerobic path, so handball can be played with a higher intensity for a longer time) . in addition to this a greater involvement of fat as an energy source helps the handball player to save glycogen in the muscles (lack of glycogen in the muscles leads to fatigue). The more developed the athletes aerobic system, the faster the recovery after high-intensity short-term load (at rest it is necessary to have a strong blood flow in order to replace consumed phosphate, and oxygen in the muscles and that results in the reduction of metabolic products such as lactic acid. The the faster the course of these processes, the faster the athlete can carry out short-term high intensity loads). Highly developed level of of anaerobic energy systems helps increase skills such as speed and power. The handball player is then capable of several successive and frequent high-intensity workloads. It also increases the ability of the handball player with tolerance to certain limiting factors caused by anaerobic loading (lactate content in the bloodB ;capacity to generate lactate content as well as operation under high lactate) (Pori, 2005).

I will describe some of the concepts that appear in the tasks below.

Aerobic threshold - some also call it lactate threshold (LA). Sets a limit above which the lactate content in the blood begins to increase (LA = 4 mmol / l) (Ušaj, 2003).

Anaerobic threshold - the point at which there is an imbalance between the production and consumption of lactate content (Bishop, 2007b). Some of this condition is also called OBLA (Onset of Blood Lactate Accumulation) (Ušaj, 2003). OBLA is the maximum load at which the lactate content fluctuates in steady state and is usually around 10% above the intensity defined by LA (Ušaj, 2003).

Maximum utilization of oxygen uptake (VO2 max) - indicates the maximum amount of oxygen that can be taken up muscles in one minute. It can be expressed in absolute terms (lO2/min) or relative values (ml O2/kg/min) (Bishop, 2007). Efforts that exceed this level are based exclusively on anaerobic energy processes (Ušaj, 2003).

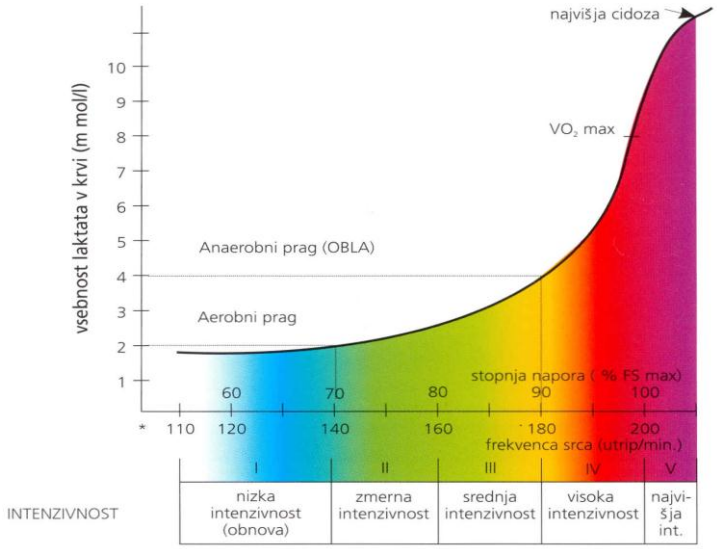


Figure 1 Level of endurance training (Bishop, 2007b).

Figure 1 shows the level of endurance training. Heart pulse rate at each of the stage effort are only hypothetical (per person with a maximum heart pluse rate of 200).

1.5 EFFORT AND PRESSURE STRUCTURE DURING HANDBALL GAME

While analysing effort and pressure during handball games different authors got different results. Differences were caused by different measuring technologies, game level, model characteristics of the game, place of playing, age of players etc.

In handball pressure consists of cycle movements appearing together with a lot of acyclic activities. Cycle movements are walking and running without ball as well as dribbling while walking or running. The most often acycle activities of handball players are: catching, servings, shots, stops, changes of moving direction, turnovers, jumps, falls, uprising, cheating (ref.: Pori, 2005).

Effort is body's reaction to the pressure (Ušaj, 2003). Effort during the game or training is presented by such factors that are expressed through functional abilities and they show the pressure of separate organ sistems of a player. This is a response of cardiovascular and muscular sistem to a certain level of pressure. Heart frequency (HF) measurement and blood lactate value are the physical effort indices to be used most often in sport games. By measuring the level of blood lactate during the game the activity of anaerobic glycolytic energy processes in the body is defined. Monitoring heart rate frequency is one of indicators of cardiovascular pressure.

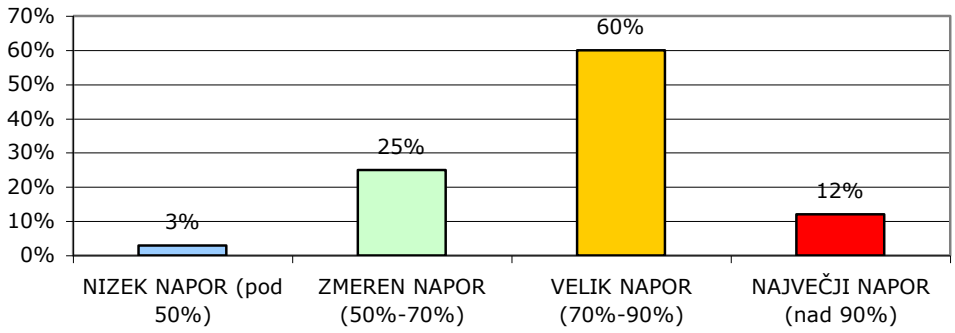
In a research made by Thorlund, Michalshik, Madsen and Aagaard (2008, in Njaradi, 2009) in Danish first league it was found that a handball player spends around 50 minutes on the field. During this time he runs about 3600 m, 11% of which with high intensity. Average intensity is aprox. 70 % VO_2 max, average heart frequency value is 157 beats per minute.

The pressure and effort to which the players are exposed during the games are closely connected. The biggest influence on players' effort during the game has movement intensity (table 1) (Pori, 2005).

Table 1: *Connection between pressure intensity and effort level (Pori, 2005).*

Pressure: Pressure intensity	**Effort:** Effort level	**Heart frequency:** Beats/min	**Lactate content:** mmol/l
walk – < 4 m/s	Low and moderate effort	≤ 130	≤ 2
Slow run – 1,4-3,4 m/s	middle effort	130-160	2-4
Fast run – 3,4-5,2 m/s	High effort	160-180	4-6
sprint – > 5,2 m/s	Highest effort	≥ 180	≥ 6

The mentioned percentage rates of effort are affected by the heart frequency during the game. Some researches on this field were also done. Heart frequency analysis during the game made by some authors show that heart rate values during the game change between 120 and 200 beats per minute. Average heart frequencies of the players vary between 140 and 160 beats per mintute.



Pic. 2. Effort rates during the handball game (Pori, 2005).

Picture 2 shows the results of average effort rates between handball games mentioned by Kuchenbecker and Zieschang (1992), Bonova (2001) and Pori (2003) in their works (Pori, 2005).

In some literature you can also trace some data on handball players' blood lactate content during the handball game. Average blood lactate values vary between 3 and 8 mmol/l depending on different investigators, but do not exceed the value of 10 mmol/l, that shows us that lactate content is not a limiting effort factor in handball (Pori, 2005).

PRESSURE AND EFFORT OF A HANDBALL PLAYER DURING THE GAME (Bon, 2001):

- 4000-6000 m,
- 37 % (1500 m) – walking, standing,
- 31 % (1700 m) – slow run,
- 25 % (1400 m) – fast run,
- 7 % (600 m) – sprint,
- 70 sprints (6-8 m long; at average every 50 seconds),
- 16 jumps,
- 270 direction changes.

- 3 % – low effort,
- 25 % – middle effort,
- 60 % – high effort,
- 12 % – highest effort,
- average heart frequency from 140-160 beats/min,
- blood lactate content 4,8 mmol/l.

By considering the pressure and effort during handball games we can easily determine which physical abilities should be paid more attention to during the training process and which tools and methods of training are the most effective at developing those abilities. A more detailed analysis reduces inaccuracy in planning and realization of the training plan.

2 SUBJECT AND PROBLEM

The subject and the problem of the thesis refer to different game forms in handball and following the heart rate during the games. As there are not so many researches in terms of studying an effort produced by pressure during the small games, the main goal of the thesis is to present the frequency of the heart rate as an effort sign while playing different forms of handball.

3 WORK METHODS

Twelve players, members of Slovenian handball junior team, aged 19-21, participated in measuring. Heart frequency measuring was done with heart rate meters - Sistem PolarTeam2 Pro. The sistem is designed specially for team sports and running group sessions. It allows you to adjust and optimise the intensity of the exercise. All heart rate meters are operated through computer to which a base station is connected. Heart rate value is shown on a computer monitor with a period per one second as well as operating of the person being measured in training area. The data of maximal heart frequency were received by means of long-term endurance test of interval character, named »30-15$_{IFT}$ test« (»30-15 Intermittent Fitness Test«).The structure of the pressure during the test is similar to the structure of the pressure at polystructural and complex sports (sport games), for needs of which the test was developed.The values of the heart frequency at rest were obtained in such a way: three mornings in a row the testees measured their heart rate on the cervical artery when they were awake but not off the bed. The average heart rate frequency at rest was calculated out of all three measurements for each person individually.

Five different games were played on a small area with optimized targets (game 2:2:2 (1); game 3:3 (2); game 4:4 with simultaneous interval runs of the third group (3); game 2 x 3:3 (4); game 2 x 2:2 with agile polygon of the third group (5)). Play time at the first, second and fourth game was 2x4 min. The break between the halves was 1 to 2 minutes. In the third and fourth games the players were divided into three teams. Each team played two games with the play time of 4 minutes. An additional task was given to the team which didn't participate. In the third game there were added interval runs 6x70 m long (IR) with 20 seconds breaks, in the fifth game a polygon with angular changes of movement direction (AGI) was added as well as six replays in the series. The break between the replays lasted for approx.20 seconds. The break between the each game was 1 to 2 minutes. All five games were shown and measured in one training unit. The break between each game was 5 minutes.

Office Excel was used for processing and graphic presentation. The diagrams are drawn with help of the Easy Sports-Graphics 2.0 Handball program.

4 RESULTS AND DISCUSSION

In the introduction of the seminar there the terms that are necessary for the further interpretation of different game forms were presented and described. If we want to put a pressure on players in terms of technical-tactical and physical preparation,the knowledge of them is necessary. As there are not or not so many games interpreted from the all three points of view (technical-tactical-physical), five different small-sided games that include all three types of preparation will be described further in the thesis. At handball trainings there are usually more players, that is why it is important how the training is organized. The presented games also include this point. There are highly intensive interval runs added to two of games because of this. They were performed by a group of players who were not participating in the game at that moment.

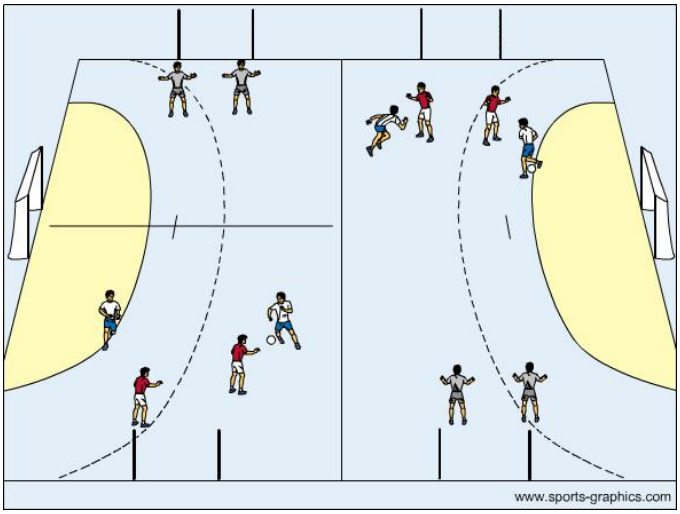
The heart rate measurements results of the described games will be presented further in the thesis. They are divided into several sections which are presented in separate but related by content parts. The first section displays the heart rate value measured at rest and at maximal effort. Values of maximal heart frequency were measured with »30-15$_{IFT}$« test and would be graphically shown in tables and pictures received with help of heart rate meters Polar Team2 Pro. There are average values of the heart frequency shown in the second section during playing all five games. In the third section the relative heart frquency values during a certain playing type are shown. In the fourth section the comparison of values of the average percentage rates of relative effort is shown separately by positions depending on different types of game.

4.1 RESULTS

For better illustration the results of the thesis are presented in pictures, graphics and tables.

4.1.1 PRESENTATION AND DESCRIPTION OF SMALL-SIDED GAMES

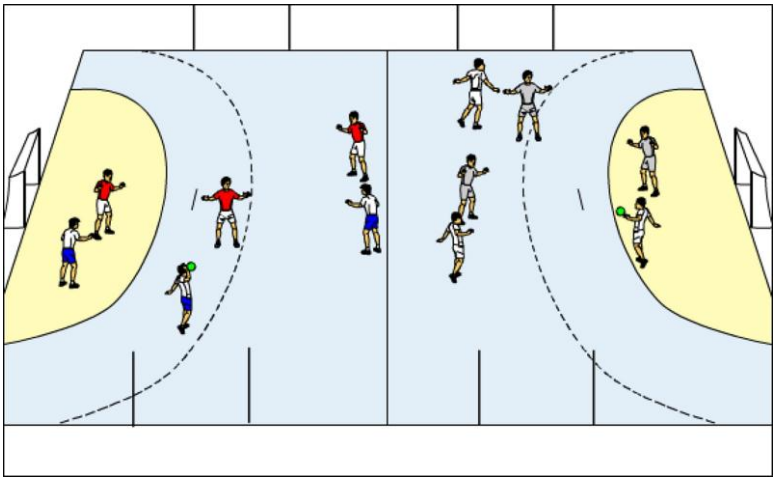
GAME 1 (FOOTBALL GAME *2:2:2 WITH AN OPTIMIZED TARGET IN THE CENTER OF THE FIELD)*



The players are divided in pairs. There are three pairs on each side of the field as it is shown in pic.3. A goal area shall be marked on both halves of the field by means of gates. A pair that is in the middle of the playing field shall start to attack trying to score a goal. The goal is scored if the ball crosses a line of the limited space. Defensive players are trying to prevent the goal. If the goal is scored or if the defensive players steal the ball they shall continue to attack the other side of the field.

Play time: *2x4 minutes*; break: *1 minute*.

GAME 2 *(GAME 3:3 ON THE HALF OF THE FIELD WITH OPTIMIZED TARGETS)*

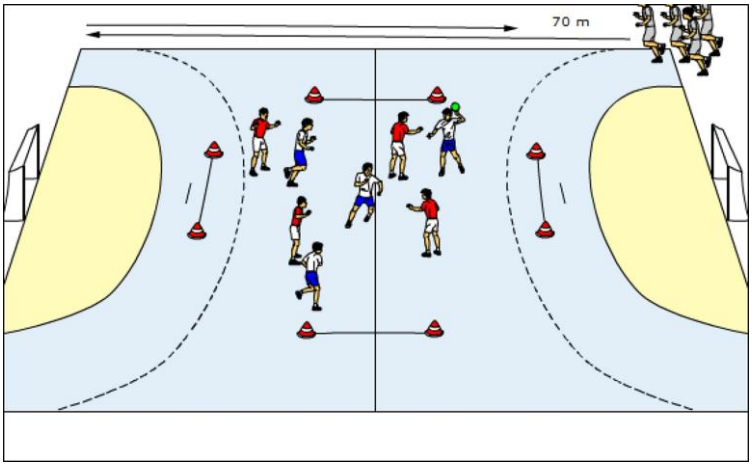


Pic.4. Game 3:3 on the half of the field with optimized targets.

The players are divided is threes. There are two threes on each half of the field.The goal area shall be marked with gates on both halves of the field. The goal is scored if the ball is served to the marked area beating the floor. Handball rules are applied during the game. Violations are not allowed (pic.4).

Play time: *2x4 minutes*; break: *2 minutes.*

GAME 3 *(GAME 4:4 WITH SIMULTANEOUS INTERVAL RUNS OF THE THIRD GROUP)*



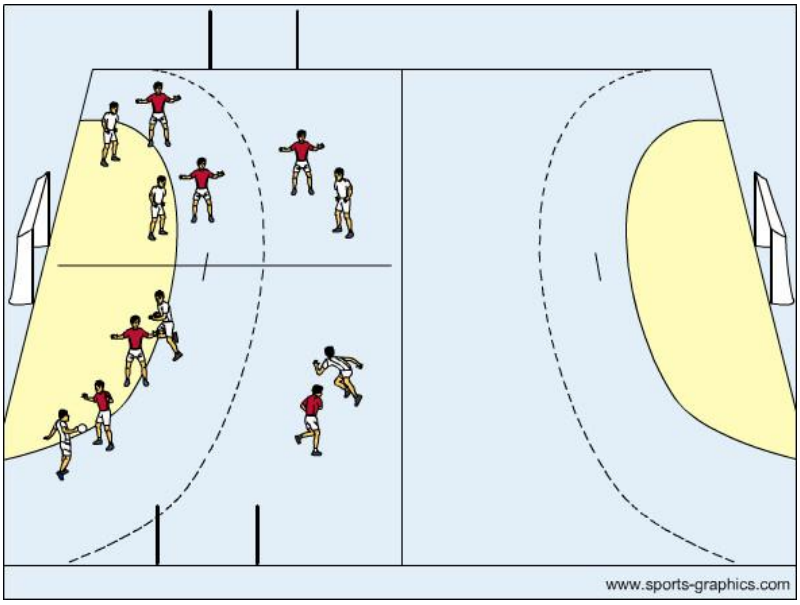
The players are divided in three teams of four. Four goal areas shall be marked with cones as pic.5 shows. Two teams are playing handball according to handball rules. The goal is scored if the ball is served to the marked area beating the floor. A team that has the ball can score a goal through each marked goal area. Violations are not allowed. At the same time the third team is exercising highly-intensive interval runs as it is shown on pic.5. Each team plays 2 half-times and does one series of the interval runs (table 2).

Table 2: *Organising display of the 3rd game.*

GAME 4:4	A:B	A:C	C:B
IR	C	B	A

Play time (game 4:4): *2x4 minutes*; break: *2 minutes.*
Run length: *70 m*; replays: *6*; break between replays: *20 seconds.*

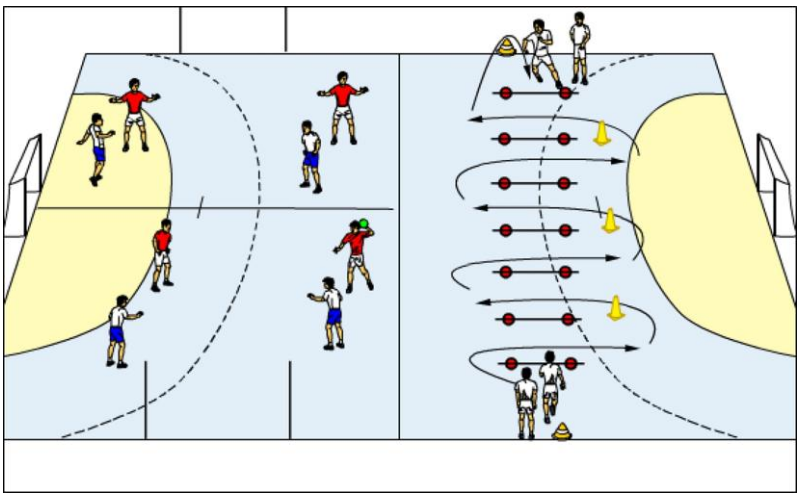
GAME 4 *(GAME 2 x 3:3 ON THE HALF OF THE FIELD)*



Pic. 6. Game 2 x 3:3 on the half of the field.

The players of both teams during the game 2 x 3:3 are divided in threes. One three of the separate team is situated in the defensive half, the other in the attack half. The three in the defensive half is responsible for preventing the strikers to score a goal using a special defense. After winning the ball their task is to transfer the ball to the opposite – attack half. They may only serve the ball there but not move to the other side. After getting the ball from the defense half players the task of the attack half players is to score goals. When the goal is scored or the ball is lost they shall prevent the ball transfer to the attack half of the opponent using the defensive techniques. After a certain period of time the roles of the players are switched from defense and attack halves (Šibila, 2006). The goal is scored if the ball is served to the marked area by beating the floor. Handball rules are applied during the game. Violations are not allowed.

GAME 5 *(GAME 2 x 2:2 ON THE HALF OF THE FIELD WITH SIMULTANEOUS AGILE POLYGON ON THE OTHER SIDE)*



Pic. 7. Game 2 x 2:2 on the half of the field with simulateneous agile polygon on the other side.

The game goes on the same way as the game 4 except the fact that the players are divided in pairs instead of threes. The goal is scored if the ball is served to the marked area by beating the floor. Handball rules are applied during the game. Violations are not allowed. On the other half of the field the rest of players have the agile polygon that works as a relay swing game. They make 6 replays. Each team plays 2 half-times and make one series of the interval runs (table 3).

Table 3: *Organising display of the 5th game.*

GAME 4:4	A:B	A:C	C:B
AGI	C	B	A

Play time: *2x4 minutes*; break: *2 minutes.*

4.1.3 MAXIMAL HEART RATE VALUE AND HEART RATE VALUE AT REST

The data of the average heart rate frequency at rest is shown in the table 4 (measurement was done every morning three days in a row) as well as the frequency of the maximal heart rate (»30-15$_{IFT}$« measurement) for each testee individually.

Table 4: *Heart rate frequency at rest and frequency of the maximal heart rate for each testee individually.*

	HFrest	HFmax
1	52	198
2	51	195
3	52	185
4	50	173
5	56	191
6	60	196
7	55	193
8	50	188
9	55	203
10	36	198
11	54	202
12	56	178

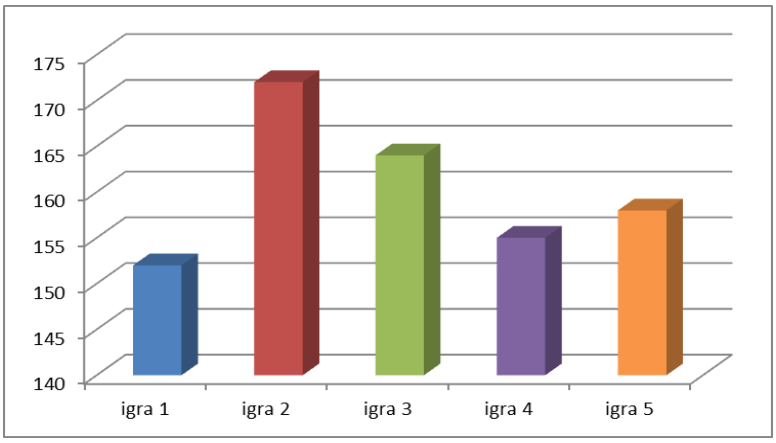
Legend: HFrest – heart rate frequency at rest, HFmax – maximal heart rate frequency

4.1.4 ANALYSIS OF THE AVERAGE VALUES OF THE HEART RATE FREQUENCY IN DIFFERENT HANDBALL SMALL-SIDED GAMES

The resulting heart rate values are different depending on each game with an objective target. In the third and fifth games the free team had an additional task (game 3 – highly intensive interval runs (IR); game 5 – agile polygon (AGI)). The data is not divided into half-time or one third (third and fifth game) but the whole game is taken into account. The average heart rate frequency values are presented.

Table 5: *Average heart rate frequency values in different small-sided games*

game 1	game 2	game 3	game 4	game 5
152	172	164	155	158



Pic. 8. Average heart frequency values in different small-sided games

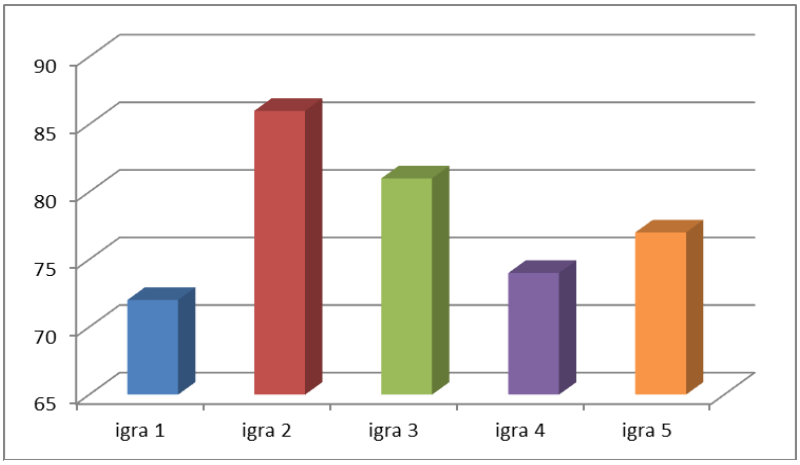
In the above shown table and graphic presentation we can see that the testees reached the highest heart frequency in the game 3:3 on half of the field (across) with optimized targets (game 2). The average heart frequency value was 172 beats per minute. The lowest average value was measured in the first game (game 2:2:2 with optimized targets), 152 beats/min. In the third game where highly intensive interval runs were added to the game 4:4 the testees reached the second highest heart frequency of 164 beats/min. It was a bit lower in the fifth game (game 2 x 2:2) where the agile polygon was added, 158 beats/min. In the fourth game (game 2 x 3:3 on the half of the field) it reached 155 beats/min.

4.1.5 ANALYSIS OF THE RELATIVE HEART FREQUENCY VALUES

The calculation of the relative heart frequency values allows us to analyse the obtained data in details. It takes into account the minimal and the maximal heart rate values for each testee individually. The average relative values are shown in percents of the maximum, they are separated by each game but in terms of the whole game. It should be again mentioned that additional tasks took place in the third and fifth game.

Table 6: *Effort level at a separate play form shown in percents from maximum.*

game 1	**game 2**	**game 3**	**game 4**	**game 5**
72	86	81	74	77



Pic. 9. Effort at a separate small-sided game in percents from maximum

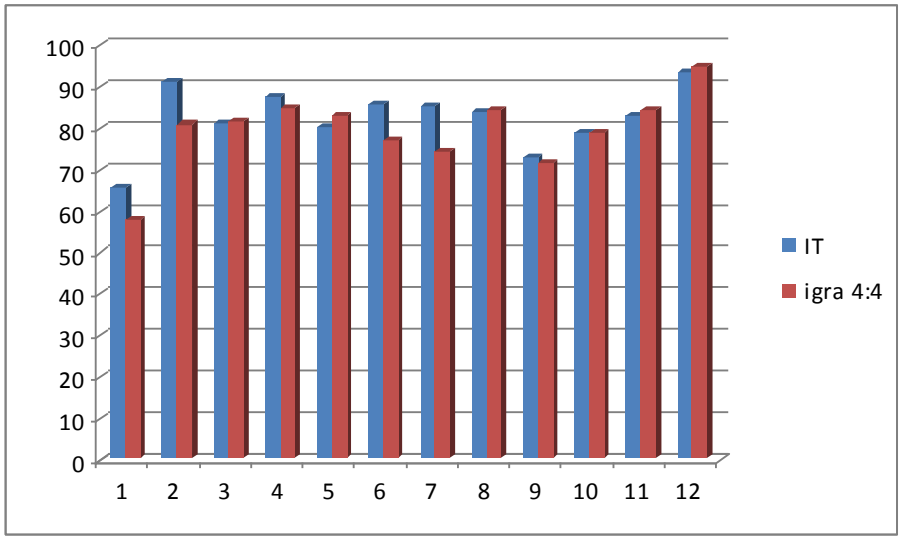
In the table 6 and picture 9 the average percentage of the relative effort in different play forms is shown. The highest relative effort value was reached by the testees in the second game (86%). Then in the third (81%) and fourth (77%) game where different types of run were added for the third team. Then the fourth game with 74%, and the lowest values were reached in the first game (72%).

The third game besides 4:4 game included also IR 71m long. There were 6 replays with 20 seconds breaks in one series. In the table 6 and picture 9 the average percentage values of the relative effort in the game 4:4 with optimized targets and IR are shown.The results show that

the percentage values of the relative effort of each separate player are very similar regardless if it is game 4:4 or highly intensive interval runs.

Table 7: *Effort levels in game 4:4 and IR for each testee separately.*

	game 4:4	**IR**
1	58	66
2	81	91
3	81	81
4	85	87
5	83	80
6	77	86
7	74	85
8	84	84
9	72	73
10	79	79
11	84	83
12	95	94

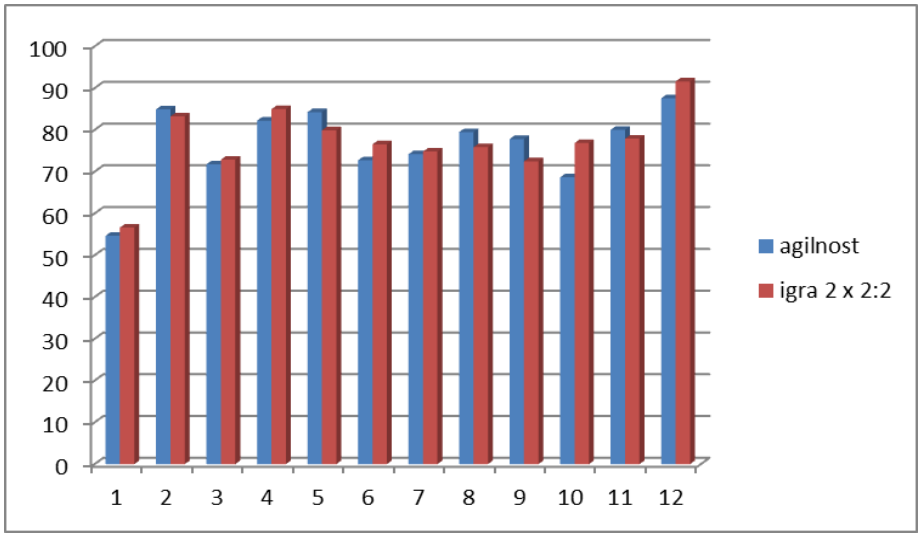


Pic. 10. Effort levels in game 4:4 and IR for each testee separately.

In the same way the average relative rates of overcoming an effort by a separate player were similar in the fifth game, regardless if it was game 2 x 2:2 or AGI (table 7 and pic.11).

Table 8: *Effort levels in the game 2 x 2:2 and AGI for each testee separately.*

	Game 2 x 2:2	**AGI**
1	55	57
2	85	83
3	72	73
4	82	85
5	84	80
6	73	77
7	74	75
8	79	76
9	78	72
10	69	77
11	80	78
12	88	92



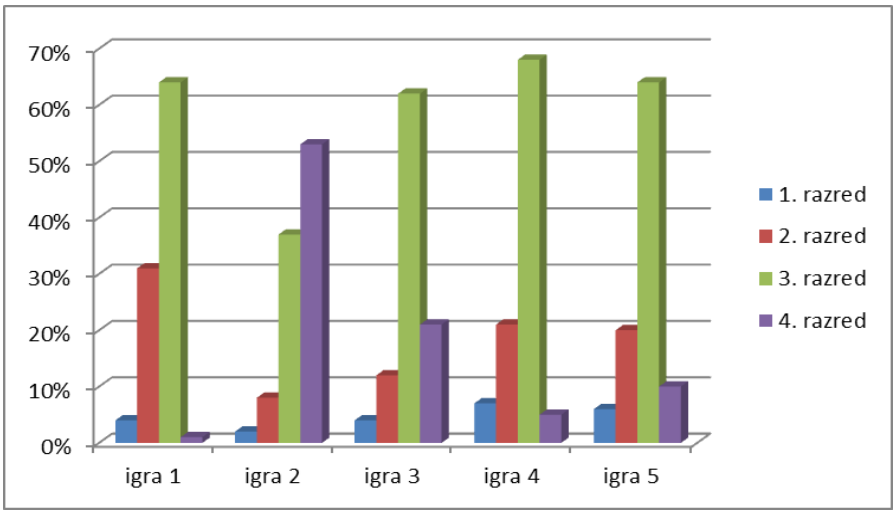
Pic. 11. Effort levels in the game 2 x 2:2 and AGI for each testee separately.

4.1.6 ANALYSIS OF VALUES OF RELATIVE EFFORT RATES IN SEPARATE CATEGORIES

The categories into which we divided the average values of relative effort rates are defined in this section.

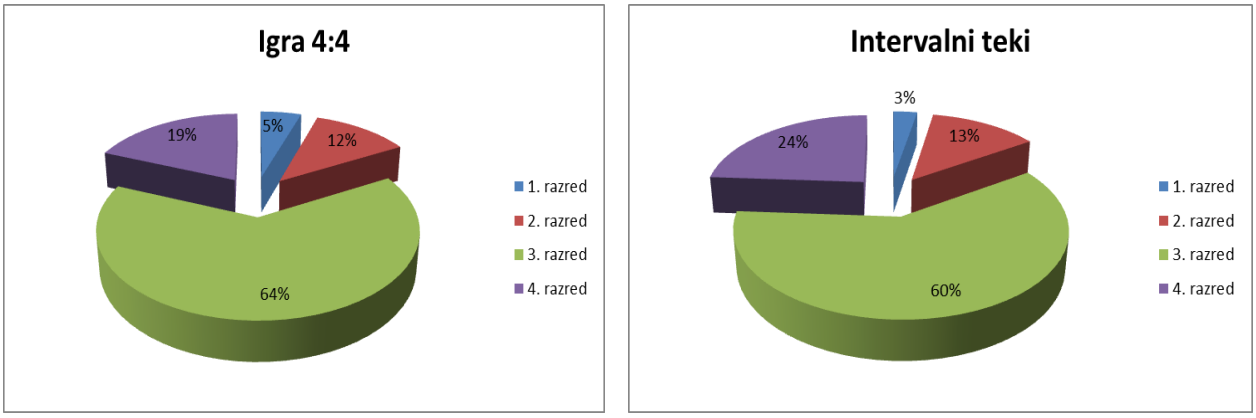
Table 9: The *value of relative effort rates as of separate categories.*

	Relative effort rate
1. category	<= 50 %
2. category	51 % <= 70 %
3. category	71 % <= 90 %
4. category	>= 91 %



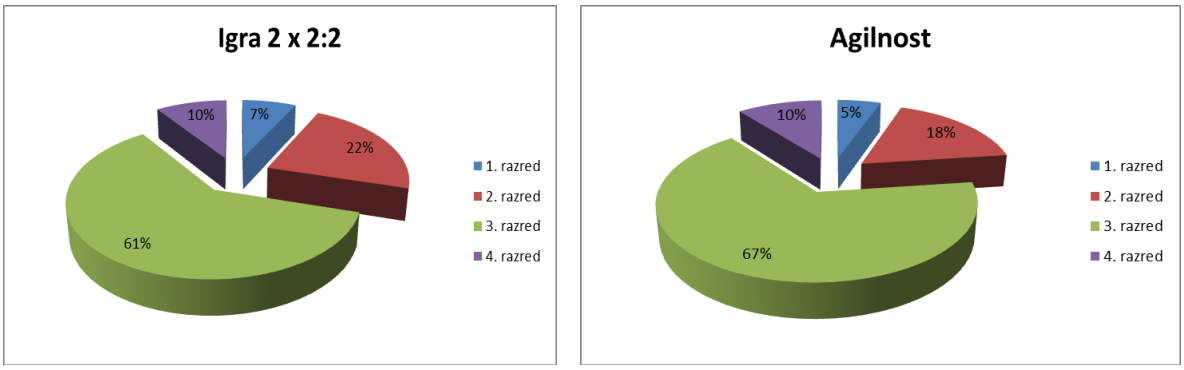
Pic. 12. Average percentage rates of the relative effort in separate small-sided games.

From the analysis of percentage rates of the relative effort (pic.12) you can see that in four games the testees spend most of the time in 3 category (relative effort rate (RER) = 62%-68%). The second game is an exception in which the testees spent most of the time in 4 category (RER = 53%), while the rate in 3 category was lower (RER = 37%). Least of the time the testees spent in the first category during all the games (game 1: RER = 4%; game 2: RER = 2%; game 3: RER = 4%; game 4: RER = 7% and game 5: RER = 6%). It should be taken into account that the results achieved in highly intensive interval runs and agile polygon were added to the fifth game. Participation in the first category is the lowest in both cases.



Pic. 13. Proportion between the categories in which the testees were in the game 4:4 and IR.

It was similar in the last 5 game and AGI (pic.14). Also here the testees spent most of the time in 3 category (game 2 x 2:2, RER = 61%; AGI =67%). Unlike the previous example 2 category comes next (game 2 x 2:2, RER = 22%; AGI = 18%) and then 4 category (game 2 x 2:2, RER = 10%; AGI = 11%). Participation in the first category is the lowest as well.



Pic. 14. Proportion of the categories in which the testees were in the game 2 x 2:2 and AGI.

4.2 DISCUSSION

The seminar deals with the heart rate as an effort index in different play forms. There are not so many researches concerning this topic, that is why the games that develop not only technical-tactical charachteristics but also physical abilities, especially endurance, were presented.

Before the presentation began it was necessary to measure the heart rate of all players at rest with »30-15$_{IFT}$« test as well as maximal heart rate. The obtained data on physiological effort indicators presented the reference heart frequency value for calculation the relative heart frequency rates during separate games. With help of the highest and the lowest heart frequency we could easily calculate the separate relative heart frequency in a separate game (ref.: Pori, 2003).

The results of »30-15$_{IFT}$« test measurements show quite big differences between the individuals. Minimal heart rate values varied between 50 and 60 beats/min, with the exception of one player whose value was 36 beats/min, while the maximal values varied between 173 and 203 beats/min.A similar range between the maximal heart rate values was also found by Pori (2003) in his research carried out with Slovenian wing players of junior category.

The highest average heart frequency rate was measured in the game 3:3 with optimized targets (172 beats/min), followed by the game 4:4 with simultaneous interval runs on the edge of the field (1614 beats/min) and by the game 2 x 2:2 with simultaneous agile polygone. The average heart frequency measured here was 158 beats/min. The lowest values were achieved in the first game (football game 2:2:2) in which the measured value was 152 beats/min.

Average relative effort rates calculated from the absolute heart frequency value in the played games indicate the highest testees' pressure in the game 3:3 with optimized targets (86%) and then in the game 4:4 with simultaneous interval runs on the edge of the field (81%). A bit lower values were achieved in the game 2 x 2:2 with simultaneous agile polygon on the other side of the field (77%), followed by the game 2 x 3:3 (74%), and the lowest recorded value was in football game 2:2:2 (72%).

From the point of view of effort the testees had the highest rate of highest effort in the game 3:3 with optimized targets. Relative effort rate was 53%. Third (RER = 19%) and fifth (RER = 10%) exercise follow. The testees spent the least time in the range of highest effort in the first game (football game 2:2:2).

In all other games the testees spent most of the time in the range of high effort.The middle and the highest effort rates are next depending on separate game. Rates in the range of low and moderate effort in all of the games are the lowest.

5 CONCLUSION

»Classic« elementary games and games with adapted rules that are played on the entire playing surface and include more players (or all training participants) certainly don't contribute a lot to the development of handball abilities required by modern handball. It often happens that players in the games mentioned above spend a lot of time for inefficient run or even standing on the field, contact with the ball is rare as well. There are a lot of observations like these but only the significant ones are exposed. Fort this purpose small-sided games are especially popular at handball and rugby. They were mainly used for development of technical-tactical abilities in the beginning, but more often they are also used for endurance development.

Every sport activity causes different type of tiredness and has its own specific physiological-biochemical characteristics (level of metabolic processes), that is why a sportsman needs specific endurance for successful performance in his/her sport. Highly developed endurance in handball allows multiple sequential implemetation of highly intensive movements. During later stages of the game those players who are more endurant can perform motor tasks with higher accuracy, reliability and success while less physically prepared players are already tired (Koron, 2009).

Small-sided games in handball are less developed and present a great potential at training, first of all from the point of view of physical preparation. They contain elements of handball games in which we manipulate the size of the field, number of players, play time and break time and type of break.

The goal of the thesis was to present some small-sided games which can be used at a training for development of different abilities. All mentioned above criterias were taken into account during the games. With less players we can influence higher game dynamics. Smaller playing area was used at each game so the relative surface per player was similar to the one on the real field. During each game two half-times of 4 minutes were played with 2-minute break. Intensity of the game was high all the time which is shown by the results. The testees spent most of the time in the range of high effort. In the game 3:3 with optimized targets they spent most of the time in the highest effort range, the intensity approached the intensity of peak oxygen consumption. I suppose it happend due to the smaller number of players and bigger playing surface. The relative surface per player was bigger than in other games.

Hill-Haas and others (2009) mention some studies that proved that by increasing the playground surface, leaving the same number of players, they increase: heart rate, lactate concentration and effort level. Besides that, it is proved that by increasing the number of

players at the same playing surface the heart rate value decreases (Owen and others., 2004; Williams in Owen, 2007, v Hill-Haas and others, 2009). Game analysis shows that during the handball game the players spend most of the time in the range of high effort (Pori, 2005), as well as many authors suggest the players to exercise in the range of high intensity during the training, if they wish to affect the development of special endurance.A similar situation is with average heart frequency which varies between 140-160 beats/min during the handball game. Average heart frequency values in metioned games varied between 152-164 beats/min with the exception of game 3:3 (172 beats/min) which additionally proves that the achieved values are similar to those the players reach during the handball game itself. The lowest average heart frequensy value as well as relative value was reached in the game 2:2:2. Most likely due to the instruction that exercise is a preparation (warming up) for later small-sided games. During all of them high effort rate was the highest. In the game 4:4 and IR the highest effort rate was on the second place (game 3: RER = 19%); IR: RER = 24%, while in the first game 2 x 2:2 and agile polygon it was moderate effort rate (game 5: RER = 22%, agility: RER = 18%). Probably the fact that all the games were presented in one training and the game 2 x 2:2 with simultaneous agile polygon was the last on schedule influenced the intensity reduction.

Also Zanoškar (2007) came to such conclusions in his research. During interval exercises the players dealt with aerobic as well as aerobic-anaerobic effort. Aerobic-anaerobic effort rate was higher and the intensity exceeded the range of the highest steady state for blood lactate and approached the intensity of the maximum oxygen consumption. The author believes that this is the lowest intensity to be achieved by a handball coach during the training for development of aerobic-anaerobic abilities. Fosterjeva and others are of the same opinion (2010). They suggest the players to exercise in the range of high intensity during the small-sided games, so that it can affect the development of special endurance.

The presented games include most of handball game characteristics. For more detailed consideration of small-sided games it would be necessary to make an analysis of pressure in these games (acyclic activities). Nevertheless, we can conclude that pressures appearing during the small-sided games are similar to those during the real handball game, at the same time the players spend most of the time in the range of moderate and high effort, also in the range of highest effort in some parts. We can easily include the small-sided games into the handball training as a perfect technique for the development of different abilities. At the same time we should consider an important doctrine acting in modern sport that most of the training should be dedicated to a complex of technical-tactical-physical preparation and less to separate isolated parts of these three aspects.

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HANDBALL FEDERATION OF SLOVENIA
Association of handball coaches
Master Coach Seminar

EMOTIONAL INTELLIGENCE IN SPORT

Seminar work

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Ljubljana, 16. 8. 2013

Abstract

In an interview for the newspaper Delo (2011) Željko Obradović, world-renowned basketball coach, stressed the importance of Daniel's Goleman book *"Emotional Intelligence: Why it can matter more than IQ"*. He praised Goleman's professional effort. I immediately read the book and the book left me with a lasting impression. As a player and later as a coach I have noticed the importance of physical readiness, good technique and tactics in order to achieve good result. Correct strategies in problem solving and good relationships in the team also have strong impact on good results. In order to achieve good results we need a high level of emotional intelligence. Goleman also showed the importance of emotional intelligence in establishing good relationships in the workplace. In this seminar work I want to define and describe the importance of emotional intelligence for personal growth as well as the importance in handball coaching profession. I will present examples of emotional intelligence reaction of players and coaches as well as examples of emotional hijacking. I will emphasize on the importance of emotional intelligence for sportsmen and their development on this field.

KEYWORDS:

emotional intelligence, leadership, relationships, conflict

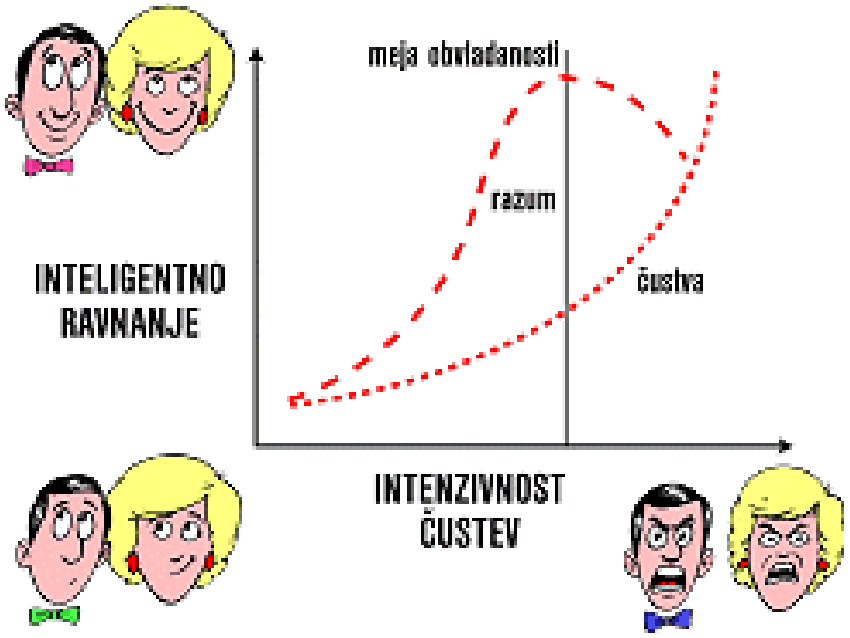
1. INTRODUCTION

Comprehension of emotional intelligence

Emotional intelligence is a very important factor in individual performance of everyday business and personal relationships. The term "emotional intelligence" is an expression of mental intelligence, which is basically human nature. Emotional intelligence shows what personal emotional needs are, how a person manages their emotional states and what the person´s actual life values are. Emotional intelligence is outwardly expressed as a certain kind of behavior (Račnik, 2013).

Emotional intelligence development is possible with each individual. This can be achieved in order to develop emotional skills. In sports, for example, contestants are motivated to develop their emotional skills, as players with high emotional intelligence perform better, which would mean that they achieve better sport results and are paid higher. It is important that emotional intelligence drills start with younger age groups, because later it is difficult to eliminate already established patterns of behavior. Figure 1 shows how intelligent behavior decreases when the intensity of emotions passes the limit scalability.

Figure 1: Interaction between the intensity of emotion and intelligent behavior (Mayer, 2001). Notes: on X axis we have emotion intensity, Y axis contains intelligent behavior.



2. DIVISION OF EMOTIONAL SKILLS

Emotional skills can be divided into personal and social (Goleman, 2001):

A) PERSONAL SKILLS - personal skills determine how well we manage ourselves.

- **SELF AWARENESS – knowledge of your inner experience, increased inclination, internal resources and internal perceptions:**

  emotional consciousness: **identify our own emotions and their effects;**

  *accurate self evaluation :***recognition of our own capabilities and limitations;**

  self-confidence: **a strong sense for our own values and abilities.**

- **SELF MANAGEMENT – management of our own inner experience, impulses and resources:**

  self control: **controlling of strong emotions and impulses**

  reliability: **conservation criteria for honesty and fairness;**

  conscientiousness: **responsibility for personal productivity;**

  flexibility: ***flexibility in the management of change;***

  sensitive for new features: **satisfaction with new ideas, approaches and knowledge.**

- **MOTIVATION - emotional tendencies which lead to the achievement of a goal or assist you to achieve:**

  tendency towards the goal: **efforts to achieve or meet the criteria of excellence;**

  commitment to: **consistency with the objectives of the group or organization;**

  initiative: **readiness to respond to any occasion;**

optimism: **perseverance in meeting the objectives in spite of obstacles and reservations.**

B) SOCIAL SKILLS - social skills determine how we manage interpersonal relationships.

- **EMPATHY - awareness of the feelings, needs and concerns of others:**

  understanding others: **identify the feelings and perspectives of others and demonstrate an interest in their difficulty;**

  developmental growth of others: **recognize the needs of others for promotion and persuasion of their abilities;**

  helpfulness: **forecast, identifying and perfecting the needs of others;**

  commitment to diversity: **creating opportunities for the participation of different people;**

  managerial awareness: **recognition of collective emotional streams and relations to influence.**

- **SOCIAL SKILS - skills in exciting the desired response from others:**

  influence: **management of effective tactics of persuasion;**

  communication: **active listening and persuasion in broadcasting messages;**

  conflict management: **negotiation and resolution of misunderstanding;**

  leadership: **inspiring and guiding individuals and groups;**

  promotion of changes: **introduction and management of change;**

  networking: **maintaining beneficial relationships;**

cooperation: **coordination of activities with others and focus on common goals;**

team skills: **creating a harmonious synergy between team members or synergies in achieving common goals.**

3. BASIC TYPES OF EMOTIONAL INTELLIGENCE

Steve Simmons and John C. Simmons in their work *"Measuring emotional intelligence"* (2000) deal with 13 contrast basic types of emotional intelligence. These are:

1. **Slow - vivacious (emotional energy): a** slow person type that has a low emotional energy, saves energy and does not like to rush. This Person avoids stressful or difficult situations and adapt easier to jobs with lower activity. The vivacious person has a lively rhythm and is very active and self-motivated. The Person has enough power to work in a challenging environment and is well tolerated in severe stress. The Person recovers quickly. A vivacious person wants to work in an environment with rapid intervention, busy schedule, challenges and pressures, stimulation, with a lot of energy and a lot of performance in difficult and stressful circumstances.

2. **Relaxed - excited (emotional tension): a** relaxed person that has a low level of emotional tension, is calm, there is nothing to worry about. This Person does not know pressure, is not shy, does not avoid the life and is not acting forced by others. The Person acts in self accord, lives moderately active life, has a positive attitude, does not avoid the work neither runs for work. Deciding is not a problem for that kind of person, but does not require deciding on all alone. The Person is not afraid to express their own opinion and does not demand subordination from others. The Person does not get angry quickly and does not retain anger inside. In relation to others this person seeks to solution "win - win". The Person is sociable, but not driven to address the most popular man. Emotionally intense persons attempts to working successfulness. The Person is not apathetic for his life events.

3. **Pessimistic - optimistic (optimism): a** pessimistic person that has a low level of optimism, well-detect errors and problems. This Person often suspect danger before the weaknesses appear, pay attention on the hazards and risk circumstances. That kind of person avoids trouble before they appear. This Person enjoys in work that demands early problem detection. Optimist has a high level of optimism, positive attitude and likes to seek well in other people and events. He trusts other people and their inclinations. He gets out only positive things and advantages when evaluating circumstances. This Person is pervaded with enthusiasm, joy, optimism and happiness. This Person easily deals with stress, has less health problems and lives longer. This Person likes to work with other people who needs encouragement and praise, are reliable, responsible and have what it takes.

4. **Humble – self-confidence (self-esteem):** a humble person has a low level of self-esteem, is aware of his own defectiveness and mistakes. This Person has a bad opinion of her/him and doesn't like to pose in front of the others. This confident person has a high level of self-esteem and likes themselves. This Person is aware of his good qualities and abilities, at the same time recognizes one's mistakes. Critical comments do not cause uneasiness or do not demolish self-confidence.

5. **Comfortable - diligent (work devotion): a** leisure person takes one's time for work. Rest and recreation mean to this person more than work. This diligent person is very committed to work, knows how to use time and has a strong desire to complete the work. This Person likes to choose the nature of work by his own.

6. **Spontaneous - observant (precision): a** spontaneous person has a low level of precision, is not filled with details. This Person makes quick decisions and responses. This Person is intuitive, leaded by his feeling and premonition. This Person is pleased with basic material knowledge. This observant person has a high level of accuracy, strives for quality work, accuracy and thoroughness. This Person likes precise work, is never late, doesn't like to work in a hurry and wants to have all available accessories.

7. **Habit person – change person (desire to change):** a habit person has a low level of desire for changes and wants to keep things the same. This Person appreciates the status quo and doesn't like impractical changes. This Person keeps stability in habits, routine tasks, appraises tradition and defined schedule. This person has a high level of desires to change, enjoys work diversity, likes innovation and upgrades, likes to travel and change destinations. This Person is very flexible in term of new conditions. This Person likes new dealing with new tasks, interesting and unknown tasks give the person higher level of motivation.

8. **Careful - brave (bravery):** a careful person has a low level of courage and doesn't like risky situations. This Person appreciates safety and follows the principle: safety is better than sadness. A brave person has a high level of courage, will take the risks in injuries, loss, hardship or person failure in order to achieve the goal. This Person likes challenging, unfamiliar, excited and adventures tasks. This Person likes to win, looks for competition with others, has a high level of self-confident and makes the best of critical conditions.

9. **Hesitant - determined (determination): a** hesitant person has a low level of determination. That kind of person wants support and leaderships by others and likes to follow stability procedures. This Person leaves important decisions, goal planning and performing important tasks to other. A determined person has a high level of determination, trust their ideas and makes quick decisions. That kind of person sets their goals by their self, sets priority tasks and undertakes actions. This Person appreciates to feel free and does not like tighter control, wants more power, authority and independence. This Person likes to solve problems by their self and does not like to act in a way, where everything is determined in advance.

10. **Indulgent - assertive (self-enforcement): an** intransigent person has a low level of self-enforcement, likes to listen and cooperate. This Person does not like to argue and has a high level of subordination, especially to superiors. This Person lets other to express their opinion, but acts in owns will. This Person is not intrusive, domineering or authoritative. This Person seeks to work in environment with lower level of dissensions. An assertive person has a high level of self-enforcement; express their own will in a easy way although that can cause some disapproval. This Person knows how to express what he likes it or not. This Person is convincing and often impacts thinking of other people. This Person tells what they wants, needs or expects. This Person has no problems in commanding and knows how to supervise subordinates. This Person knows how to gain control over situation, likes to make decisions and instructions.

11. **Intolerant - tolerant (tolerance): an** intolerant person has a low level of tolerance and cannot stand negligence. This Person quickly notices if anyone is acting rude or unfair. This Person gets a sense of anger if someone is threatening their needs. A tolerant person has a high level of tolerance and can stand inappropriate behavior of others. This Person is calm and good in handling with trouble, rarely gets into arguments or fights. This Person is good in understanding of problems from other people. This Person willingly forgives and strives for good relationships and cooperation.

12. **Arbitrary - thoughtful (consideration): an** arbitrary person has a low level of consideration and takes care for their own. This Person highly appraises his own goals and does not like any obstacles in the way. This Person is focused in win-win philosophy and is acting in order to benefit directly. Person wants to control events and expects from surroundings to like person says. A thoughtful person has s high level of consideration and is considerate to others. This Person likes to listen to others problems and does care about others problems. This Person knows how to put oneself into somebody else and at the same time feel understanding for others distress. This Person likes to help others and commit what was promised. This Person is sincere responsible and faithful.

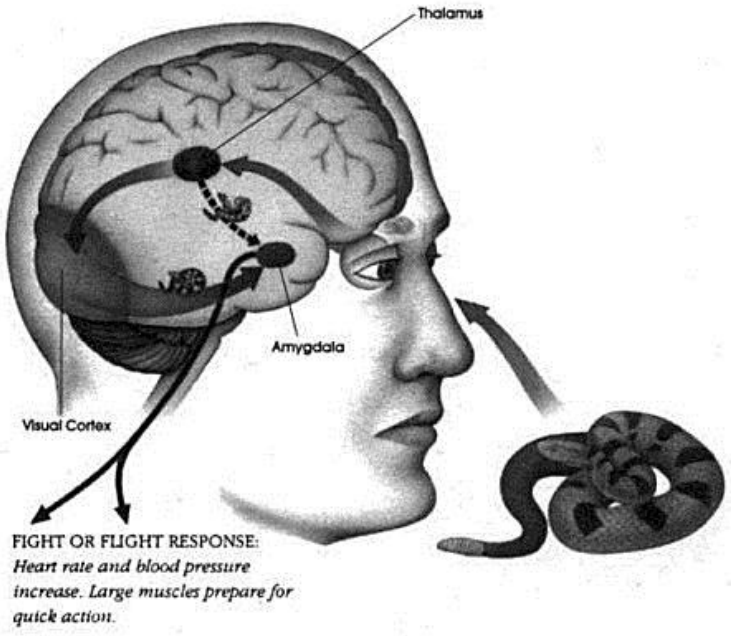
13. **Retained - sociable (sociability):** a retained person has a low level of sociability and does not feel any need of society or conversation. This Person does not spend time in small talk. This Person likes to work alone or with two coworkers, job is done quietly and with minimal attention. This Person likes occupation with minimal social contacts. A sociable person has a high level of sociability, is responsive and interested in others. This Person likes attendance of human society, has no problems in introduction and starting conversation, knows how to express and be funny.

4. EMOTIONAL HIJACKING

In the elementary school, where I teach for a couple of years, there are more and more pupils, who have difficulty in controlling their emotions. Participation in sport games, where achieving good result plays an important role, pressure in achieving good result is causing emotional outbursts. I would like to expose a certain student, who lost judgment.

In sports games, you will compete for the best result and because of the high pressures there are frequent emotional outbursts. As an example to highlight this there is a pupil, who in conflict situations is often losing judgment. In certain stressful situations is overwhelmed by emotions, so he often reacts aggressively. Moreover, during class he is often physically and verbally attacked by his classmates and once attacked the teacher. During physical education classes I taught students about the basics of emotional skills, punctuation, I separated his actions in these affects and his personality, and he proposed a solution. Whenever he felt the tension, the game can be left so he can be alone and be calmed. Later the game can be restarted. The pupil was pleased, as he eventually began to control his emotions. Other students were happy to accept his efforts and he stood by. I work with a lot of younger age groups working on this area of emotional intelligence, and I experience great satisfaction when children are grateful for my help, I show gratitude in the form of respect. It is important that children who are faced with such problems, experience a positive experience, which means that they can master your anger, not anger them. Every time you overcome anger, reliving guilt, while, conversely, when overcome anger and positively resolve the stressful situation, their self-esteem grows.
Goleman (1997) states that in such moments kidnapping of the Amygdala (Figure 2) occurs. Kidnapping is carried out in the blink of an eye and triggers a reaction in the decisive moments when the neokortex had no opportunity to look around and see what was actually going on. There is no time left to determine whether the measure was correct or not. On the outside, such as kidnapping reflect that immediately after the person is unaware of what has gotten into you. The Amygdala is the storage of emotional memories in the brain, shed our victories and defeats, hope and fear, hurt and frustration.

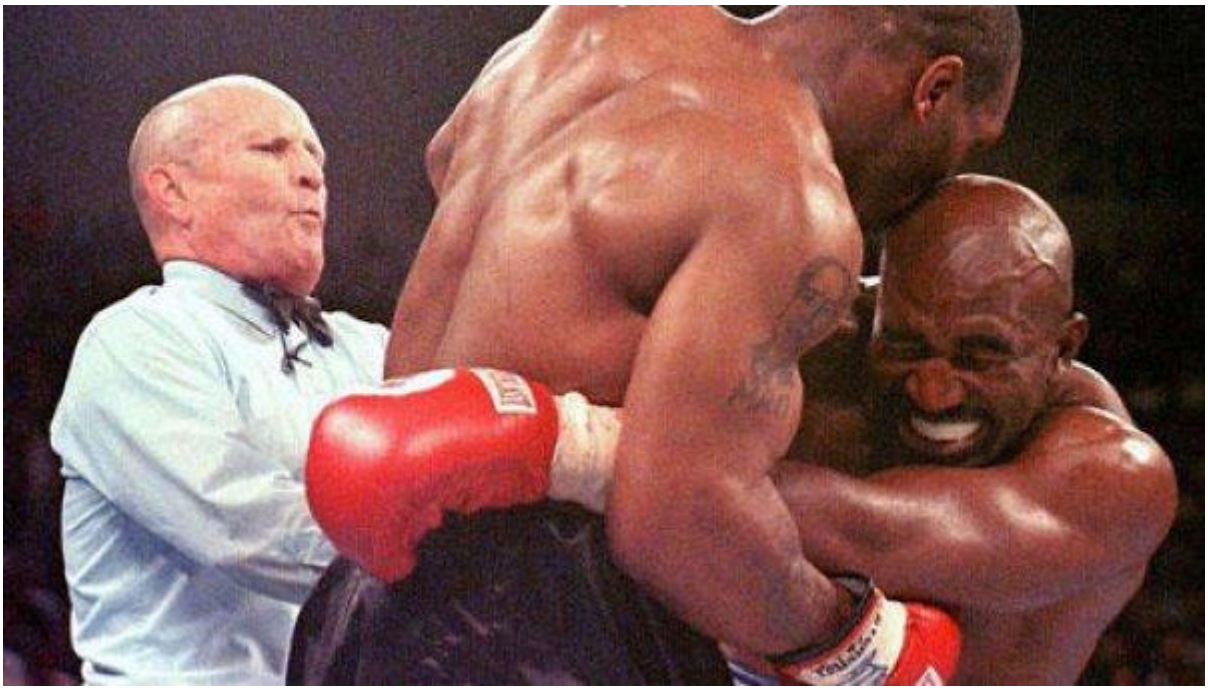
Figure 2: Anatomy of emotional hijacking (Goleman, 1997)



A tragic event occurred as an example of emotional hijacking and horrific consequences for the basketball player Slobodan Jankovic in the championship game in Greece in 1993 (Figure 3). The judges' decision upset him so much that, that with all strength he hit with the head to the construction of the hopper. Janković was in a situation of emotional hijacking. He was left paralyzed for life.

Figure 3: The incident basketball Jankovic, who was in an emotional outbreak of severe damage.

Figure 2: Example of the boxer M. Tyson: he bit off a piece of the ear of E. Holyfield, which meant a fine of $ 3 million and one year ban on boxing.



Aristotle says in the Nicomachean Ethics. *"Anyone can be angry - it's really not that difficult. But it is hard to anger the right person, just right at the right time for the right reason and in the right way."*

Figures 4 and 5 show examples of the different branches of our emotional skills of two good defensive players. First, Didier Dinarte, which is characterized by high aggression, strong solid defense, communication and physical gestures: as a consequence, that player is more popular among judges, successful and excellent paid for the game in one direction (back). The second, Vladimir Osmajić, which is also characterized by high aggression, strong, tough defense but the communication is unsportsmanlike, inappropriate gestures: consequently less popular with the judges and poorly paid.

Figure 4: Didier Dinarte, handball defensive player with high emotional intelligence

Figure 4: example of a player who has difficulties controlling his behavior

The question that arises is the following: if someone would work with Osmajić at a young age to develop emotional skills, whether he would be better able to navigate his emotions during the match and become an even better quality player? Probably the answer is yes.
In younger age groups the problem of emotional parents at matches arises. Some parents can get so upset that it causes physical clashes between them at matches of mini handball. Certain

parents at matches cannot control their emotions, because they probably are not aware of their behavior. With such behavior we can only wonder how their children feel. It is very important that the coach before entering a team of younger selections, inform parents of the rules and behavior of parents, in particular, the ways they can help their child to have a healthy attitude towards sports. I advise parents to read the literature on this topic. Closest to me explains dr. Maks Tušak et al. Mateja Tušak (2003), who say that the role of parents in the upbringing of the child in athletes is very important, but not at all times the same. In particular, the importance of their role at the very beginning when the child is getting closer to the sports and it is necessary to promote the sport. The moment a child is grown up, and this phase begins to develop into a mature young athletes, so when a "fire already lit," the initial intensive monitoring and the integration of the parents in this process it can be very counterproductive, as it can be too much interest in the child's engagement to sport this "stifle any flames." During this time the role of the coach becomes very important which should help the child to develop a positive motivation for the sport. Motivation no longer come from the outside (eg, parents), but from the child itself. During this period, the young athlete parents need support. The child begins to experience with different stressful situations. As a result of these, depending on the different parenting approaches (authors refer to four), the child may develop excessive anxiety and fear, which are increasing especially in the following cases:

- punishment in case of failure;
- variable behavior of parents (before the match highlight efforts after the game and show your child that it is important not only win);
- setting strict parental boundaries (ban) and
- suppressing praise when it is needed, and interim and denial of positive support.

It is therefore clear that the influence of parents on the child's views on the success and failure, on the completion of his fears is very large. Therefore, it is important to coach immediately after noticing the first false paths in parental relation to the child - the athlete. Its mission is to provide information on the basic rules of behavior:

- for a lost game or a bad outcome children do need attention and love from their parents, not criticism;
- parents before the child's race should not bring their own neuroses to the child;
- parents are not allowed under any circumstances to punish a child because of the failure in the competition;
- children should not dictate to parents;
- child's self-esteem necessary to pour;
- instructions for training and competition should be left to the coach.

5. SCHOOL OF EMOTIONS

Goleman (1997) has shown that emotional education in childhood contributes to better success in tests of children learning skills and performance in general.
Emotional literacy helps to improve:

Feelings of self-confidence

- **Progress in identifying and nominating their emotions,**
- **Better understanding of the causes of feelings,**
- **Identifying the differences between feelings and actions.**

Emotional control

- **Effectively serve their frustration and anger management better,**
- **Less verbal insults, fights and disturbance classes,**
- **Appropriate expression of anger, no fighting,**
- **Less exclusion from the class during class or from school,**
- **Less aggressive or self-destructive behavior,**
- **More positive feelings about themselves, school and family,**
- **Better stress management,**
- **Less loneliness and anxiety in society.**

Fertile EXPLOITATION OF EMOTIONS

- **Increased accountability,**
- **Increased alertness and attention in carrying out tasks,**
- **Less impulsivity, more self-control,**
- **Better results in tests of skills.**

Empathy: recognizing EMOTIONS

- **Increased ability to assess situations from the perspective of other,**
- **greater experience of empathy and sensitivity to the feelings of others,**
- **greater willingness to listen to others.**

Regulation RELATIONS

- **Increased ability to parse and understand the relationships,**
- **Increased ability to resolve conflicts and negotiate misunderstandings,**
- **Increased ability to solve problems in interpersonal relationships,**
- **Stronger enforcement of yourself and greater skill in conversation,**
- **Increased popularity and frequent dusk in society friendship and commitment to their peers,**
- **Frequently invited into the society of their peers,**
- **Greater care and appreciate your concern,**
- **Greater preference for the company and with the other group,**
- **Greater willingness to share, co-operation and assistance,**
- **Greater democracy in its relations with other.**

The project development of the child, led by Eric Schaps, of the Centre for development of study programs in Oakland, California (adapted from: Goleman, 1997) has shown that children who have been targets of social and emotional learning, different from other peers have been:

- more responsible,
- more decisive,
- the most popular and frequently visited it in company,
- more sociable and willing to help others,
- more considerate and take into account other,
- more oriented society to solve interpersonal problems,
- more frustration,
- more democratic,

- more adapt to settle disputes.

How can an excessive aggressiveness in handball be prevented? It is important to do a lot of work on teaching social and emotional intelligence. There is a lot of coach role with the participation of psychologists, parents, and especially in this early period. The manager should analyze conditions that can provoke an emotional hijacking and reduced the tension of aggressive feelings before and during the match. Teachers may use a variety of techniques. Relaxation helps the player to rationalize aggressive reactions. Prepare the necessary players in the opponent's insults and provocations, and to seek psychological help. Coaches younger age groups have to be very careful that the players would not have formed excessively aggressive behavior. They need to show the uselessness of such acts, and to highlight the positive solutions to formulate the correct attitude to sport. In order to prevent emotional hijacking the coach must have a good insight into the athlete's current as well as more remote experience.

Goleman (1997) argues that in the best of cases, IQ contributes barely twenty percent of the factors that are crucial for success in life, while the remaining eighty percent is left to other factors. Coaching is a profession for emotional intelligence, which includes capabilities such as promoting yourself and defiance frustrations, control impulses and disposal of satisfying, mood control and release of distress that inhibit the ability of thinking, empathy and hope, of great importance. So our success depends largely on highly developed emotional skills.

6. ASPECTS OF AN EMOTIONAL INTELLIGENT COACH

Developing emotional intelligence helps in personal growth and all relationships (partner, family, work ...). When the coach decides to train certain teams he must be familiar with as much information as possible regarding his work. The preparation of the coach for the new team is fundamental as he must become a leader in any given moment quickly and fully manage the situation.

1. Features of the nation, states, provinces, cities

It is important to know the details as much as possible before entering a club or national team. Detailed analysis allows us to decide or take work, if we take, how we ourselves work, anticipate potential problems, etc.. Here I think the mentality of the nation (national team), differences between regions (Styria Primorska), cities (Izola, Koper, Kozina). Coaches must have a strong ability to adapt. The differences between the management teams of clubs are great. Even in the clubs where I was; the distance between them a few kilometers only, the differences are huge. All of these specifics is necessary to accept and direct power to make changes in the field where we know that it can make a difference. When you want to change too much it happens that the environment does not accept this, because the habits are so powerful that they will resist to any change.

2. Characteristics of the management of the team and the board of directors of the club

Their work in the past shows us how to behave in the future. The fact is that the management has a direct impact on the fate of the coach and the relationship between them is one of the most important things in the operation of a trainer. The coach needs to know who is who in the leadership of the club and shall adjust accordingly. He must collect all the information about the past, philosophy and conclude an agreement as clear as possible.

3. The selection of players, assistants

Quality selection of his closest colleagues and players will allow us to better relationships and work effectively with fewer problems during the season. The task manager is to organize training so that everyone pulls in the maximum. Equipped with this information, we will help you decide whether to accept any job easier; we decided to leadership style and will be successfully navigated between the players. Coaches often call me a reminiscent of a Corporal in the JLA. A Corporal has to skillfully work with the supervisor (guide-bearer, captain) and subordinate soldiers. Good Corporal must have had a good relationship with the soldiers, but he had to maintain firmness in command and satisfy the parent to the performance. As described by Goleman in his book *"Emotional Intelligence in the Workplace"* (2001), excellent managers successfully strike a balance between their people-oriented performance and determination in command. Do not hesitate in committing and related determination, intransigence and business.

The greatest difference between an average and an exceptional leader can be attributed to their emotional appearance. The best leaders from the mediocre vary in a more positive viewing, openness, greater ability emotional expression and exuberance for warmth relationships and greater accessibility (along with frequent laughing), according to friends and more democratic relationships, greater willingness to cooperate, condescension and fun, courtesy , reliability and even greater refinement. In contrast, the medium-successful business leaders are narrow-minded, dismissive, rigorous, uncomprehendingly and introverted. Compared to the extremely successful as dullards, are ready to take more and more control, and dedicated reality without emotion, the more lofty and self-directed and have the certification to prove themselves more often, they are right (Goleman, 2001).

Recognized basketball expert, Ettore Messina (Stanković, 2006) says that every sports team the best chance to win if all its members are aligned in perfect harmony. Even the best basketball, football, handball can not win if every player plays their own way, without regard to other people. Outlook can be achieved only through joint efforts and coordinated efforts of all the people. A lot of basketball knowledge can be used in companies, mainly through teamwork and motivation of the group. The best motivation knows a boss or manager. Their behavior is an example to others, if the coach is accurate, always ready, and calm under pressure, it is a great possibility that they will act like the players. Therefore, a dishonest boss cannot expect that his people are honest with him. It is very important how we treat our people; we need to know in which stage of life are our players, what their personality is or what their style is. On this basis it is easier to decide on a variety of techniques for different players. Its main purpose is to find the best way to keep each player's best to use your talents.

Each team has a whole range of players who are very different, not only characteristically and personality, but also by education, financial incentives, religion, nationality ... How to reconcile such different people to work together without conflict? Coaches keep people who may have a higher salary and they have to have the authority. They all have the same goal to win it, but the trainer must take into account that each player has its own individual purpose. In difficult situations, the players behave more like an individual, to protect their territory and

do not behave as a team. The coach must make sure that the best possible way to achieve their own goals that they are trying to achieve common. Messina (Stanković 2006) mentions that for every major team a hierarchy and some division of roles does exist, so we need to start an accurate assessment of people with whom we work, that you will later people trust each other. Each member of the team must be willing to help, thinking and teamwork not only about their own interests. Coaches can not be affected at all, but they must be aware of the relationships within the team and always establish mutual trust. Association of outside work is not essential, more important is that people respect each other and trust you. This means that all respect individual differences, the various reactions and ways of working. Teamwork are the rules of critical relationships between people must be clear and this helps us to ensure the respect for each other. Key task of the coach is to help people understand their own role and enable them to progress.

An interesting story about the first steps in the Real Madrid team described the basketball expert Zeljko Obradovič (Brozović, 2011). Every beginning of the basketball team Real Madrid made preparations for the athletic stadium in Madrid. Together with Obradović has come to the club at that time Arvydias Sabonis basketball star. At the first workout Obradovic noticed an unfit player, wearing superstar sunglasses and had too much weight. At the side trail recreationists were running faster than this player.

After the workout he respectfully talked to Sabonis and he agreed to work according to an individual program until a satisfactory physical condition was achieved. The further story was successful and Real then won the title of European Champion.

The today's coach of the Slovenian national basketball team also renowned expert Bozidar Maljković (2011) says in his lectures: *"Attack the big boss and you may have peace from the rest of them!"* (Attacking the main player and you will have peace overall). He speaks, of course, establishing authority over the players. Both speak to the players they may never get off guard and no answer to their question. I also believe that the authority acquires knowledge. Law ingenuity and the trainer to show where he seeks to enforce discipline. Maljković (Golob, 2011) emphasizes clean, fair and immediate relationships conflict resolution among all participants. It is very important to have a coach, support management and the players know it. In all successful coaches I follow over the last years I see they have an extremely high level of emotional intelligence.

Goleman (1997) mentions the following emotional skills that are most often contribute to achieving high performance of people in leadership positions:

- initiative, a tendency towards fulfillment of the objectives and flexibility;
- influence, team leadership and management awareness;
- empathy, self-confidence and concern for the growth and development of others.

Two of the most common features of unsuccessful people (Goleman, 1997) are as follows:

- Stiffness (his lifestyle does not know how to submit changes in the living environment of their organization or perceived feedback on properties that would have to change if we wanted to move forward, or respond to this information. Are unable to even listen or learn;

- Poor interpersonal relations: the only and most frequently mentioned factors: rude criticism, remorseless and complexity that make collaborators to alienate from them.

Between successful and unsuccessful leaders, who failed because of the lack of most of the major dimensions of emotional maturity, have shown sharp differences:

- **Controlling you: those who failed, are difficult to tolerate the pressure and were prone to moods and the outbreak of anger. Successful despite the stress in the worst crisis remained calm, calm, confident and reliable.**

- **Conscientiousness: The** group of the unsuccessful respond to criticism very defensively - denying, concealing or transferring the blame on others. The successful took responsibility and admit their weaknesses and have taken immediate action to solve the problems and worked on without undue speculation about his misstep.

- **Reliability: for those who have experienced a disaster, was a characteristic feature of excessive ambition and the desire to rise at the expense of others.** Successful ones have maintained honesty and concern for the needs of their employees and associates, and to the requirements that gave birth while meeting current task, to which have been given a higher priority than good impression, which could be at any price you want to prove in front of your boss.

- **Life skills:** unsuccessful have not gained empathy and sensitivity and were therefore often sardonic or allowed themselves to intimidation of subordinates. Some people sometimes succeeded in eliciting from ourselves a little charm and caring for others, but the grill shine from the purely speculative purposes. Achievers were more in favor of diversity and have a good understanding of all human beings, despite their differences.

Goleman (2010) points out that his model of emotional intelligence embraced social intelligence, but throwing in the same basket with emotional obstacle to thinking about the human talent relations. It is important what happens during the interaction. Components of social intelligence can be divided into two major groups:

- *Social awareness*

Social consciousness covers a range of properties, from the immediate feeling of the internal state of another person to understand her feelings and thoughts and perceptions of the complex social situations. Range of social awareness include:

- Basic empathy: feeling with others, perception of emotional non-verbal signals
- Attunement: Listening with full perception, tuning per person.
- The correctness of empathy: understanding the thoughts, feelings and intentions of others.
- Knowledge of the operation of the company: knowing how the social world works.

- *Social competence*

Just that we feel what someone else feels or knows what thoughts or plans does not guarantee a successful interaction. Range of social skills include:

- Synchronicity: smooth interaction of the non-verbal level.
- Self: effective presentation of himself.
- Impact on social interaction design.
- Concern: the needs of others and appropriate behavior.

7. Measurement of emotional intelligence

Simmons Personality (2000) can be found on the Internet at the website of Simmons Management Systems available at www.EQhelp.com.
Instructions for completing the questionnaire:
The questionnaire below is a condensed summary of the scales we use to measure emotional intelligence. At each scale mark where you belong - low, moderate, high, extremely high - and enter your initials in the appropriate box. Then enter the letter "D" in the box that describes the requirements of the job. If you are interested in the relationship to another, enter his initials in the box that best summarizes its features. If the letter "D" is not in the same box as your initial letter, write it on the right side of the scale and number as much boxes (space) is between the two: for example, D1 separated by a window, D2 for two of the boxes ...
Similar to proceed if you compare their values with the values of another. Areas that have been designated by D1, causing notable professional problems, D2 is a sign of a serious problem, D3 is a strong serious problem. The same applies to the calculated value of interpersonal relationships. She reminds us that they are accurate and thorough measurement of character traits to the full personality questionnaire, so we must be careful when deciding to change based on the results of this little personality questionnaire (Simmons and Simmons, 2000).

Table 1: Mali personality questionnaire (shortened version, taken from: Simmons and Simmons, 2000).

	LOW	MODERATE
SLOW	Slow idle speed gets tired	Moderate lively, moderately active
FREED	Calm and happy with myself	Low emotional tension
PESSIMISTIC	He sees problems, critical	Moderately positive attitude
HUMBLED	Humble, self-critical	Moderately high self-esteem
LEISURE	Resting, the game	Moderate work
SPONTANEOUS	Spontaneous superficial	Moderate accuracy
CREATURE OF HABIT	He likes routine, monotony, repetition	Moderate tendency to change
SAFE	He loves comfort and safety	Remarkable courage
VACILLATING	Leaves the management of other	Prefer it the other tips
PERMISSIVE	Involved, is an easy, does not assert yourself	Moderate exercise its available

Intolerant	Do not let the abuse, quickly gets angry	Moderately tolerant
Arbitrary	Care for themselves, selfish	Moderate considerate
DELAY	I was alone on hold	Like to work with famous people, or, in their company

HIGH	**An extremely high**	
Vibrant and active	Extremely lively and hyperactive	**Lively**
Moderate emotional stress	Excessive emotional tension	**Tense**
Positive attitude, cheerful	Carefree, naive	**Optimistic**
Loves oneself	Proud, defensive behavior	**SELF-CONFIDENT**
A lot of work	The need to work	**Industrious**
Observant and accurate	Perfectionist, addicted to details	**Observant**
I have new ideas, places, things, attitudes	The need to change the monotony bores	**PEOPLE CHANGE**
Transferred discomfort, pressure and threats to achieve the objective of	Very brave, a lot of risk	**BRAVE**
Solves problems alone	Decides he wants control over the decisions taken	**RESOLVES**
Apply your opinion, can require	Domineering, imperious	**Unrelenting**
Slowly getting angry	Tolerant, denies anger	**Tolerant**
I help you, honest	It helps to sacrifice their own needs	**Consideration**
Friendly, meet people	Various people, glib	**Sociable**

8. CONCLUSION

In the paper, I described the importance of emotional intelligence, how it is used in personal growth and handball coaching profession. I have showed examples of emotional hijacking of sport and emphasized the importance of outreach work with the youngest in the field of emotional skills. I also have emphasized a variety of emotional competence (Goleman, 2001) and various types of emotional (Simmons and Simmons, 2000). Great importance of emotional intelligence has proven Goleman (1997), who argues that in the best of cases, IQ contributes only twenty percent of the factors that are crucial for success in life, while the remaining eighty percent is left to other factors. Demonstrated that affective education in childhood contributes to better success in tests of children learning skills and performance in general, the impact of emotions is on raising self-esteem, emotional control, empathy, and control relations.

I also think that in the coaching profession emotional intelligence is extremely important. Our success therefore depends largely on highly developed emotional skills, which I have shown in some cases of top basketball experts who have an extremely high level of emotional and social intelligence. As an aid in determining the level of emotional intelligence in athletes in practice, I recommend using various personality questionnaires designed to measure emotional intelligence.

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Handball Federation of Slovenia

Slovenian Handball Coaches Association

Master Coach Course

6-0 ZONE DEFENCE WITH THE 2nd AND 4th DEFENDER CLOSING DOWN OFFENSE PLAYERS

(Seminar paper)

Mentor: ***dr. Marko Šibila*** ***Author:*** ***Branka Mijatovič***

Grosuplje, June 2013

Contents

3. ABSTRACT

Practice and my experience have taught me that every individual defender is important for a good defence. This means young players must be taught not to constantly expect teammates to bail them out but to help teammates whenever necessary. By doing so, players will approach the defensive phase of handball in the right way.

4. KEYWORDS

6-0 and 3-2-1 zone defence, footwork, agility, contact, concentration, tactics

5. INTRODUCTION

In recent years, the most dominant handball teams at the highest level use a very dynamic defence and have a successful goalkeeper. This is the result of modern training opportunities offered by various gyms and the inclusion of track-and-field exercises in training sessions. Because of this, players have been able to develop their motor skills to unprecedented levels, especially agility and coordination. Agility denotes the ability to change direction and coordination of movement. Changing the movement direction without a significant impact on the speed is crucial for improving agility. Daily training of directional changes will reduce or completely eliminate deceleration upon changing direction and increase agility. A good defender must possess sufficient individual ability and technique.

DEFENSIVE TECHNIQUE:

- Basic stance (parallel, diagonal)
- Movement in the defensive stance (lateral, forward, backward)
- Stopping
- Closing down and preventing shots

BASIC STANCE (parallel)

Feet are on the floor, head raised, back straight, knees relaxed and slightly bent to lower the centre of gravity, arms at shoulder level, elbows bent, and palms facing forward.

MOVEMENT IN THE DEFENSIVE STANCE

Types of sideways movement: lateral shuffle, placing one foot in front of the other, placing one foot behind the other, carioca step or normal running, if it is necessary.

Lateral shuffling to the left means that we turn the left foot in the direction of our movement, while the right foot is perpendicular to the direction. At the same time, we push off the right foot and make a large stride with the left foot in the direction of the movement. As the left foot

touches the floor, the right foot is moved to the left (the feet must not cross). Pay attention not to jump.

Sideways movement by placing one foot in front or behind the other: the head must be raised, the back straight, arms in the defensive position, one foot must be turned in the direction of the movement. The left foot is moved to the side and then the right foot is placed in front or behind the left one. The left foot is then again moved to the left and the hip must turn in the direction of the movement. One of the phases during this movement is called the "flight" phase.

Forward movement is used to close down opponents and can be executed with a carioca step, forward shuffle or normal running.

STOPPING

Stopping in sideways movement is executed by placing both feet on the floor with one of the feet moved forward depending on the hand the attacker holds the ball in (the diagonal stance). Alternatively, both feet can also be parallel when stopping.

CLOSING DOWN AND PREVENTING SHOTS

Defenders use one of the movement techniques to move out of the defensive formation and close down an opponent. The selected technique depends on the attacker's position and movement. The defenders try to stop attackers when they are trying to break through the defence, shoot or feint.

Training is individual, in pairs, in groups of three or four or it can include playing 6-on-6
An agility ladder, balls and cones are needed.

6. CONTENTS

Every defensive system has advantages and disadvantages. Players most often feel the most comfortable in a 6-0 zone defence, because it provides a certain level of safety due to the fact that they are close to each other. However, modern players are stronger and faster - they are all-round athletes which is why it is practically impossible to stay close together. Modern 6-0 defences are versatile - with aggressive closing down of opponents far from the line. There are multiple aggressive 6-0 defence variants. Often, the 2^{nd} and 5^{th} defenders close down far out while the 3^{rd} and 4^{th} defender close down alternately depending on from which side the ball is coming from and the line player position.

Some also believe that every defender should close down his respective attacker in a 6-0 defence. Because the speed of the game is increasing, it could happen that two neighbouring players would be off the line simultaneously (leaving too much space for the line player) or that they would not have enough time to reach an agreement and would both stay on the line.

This seminar paper will describe a 6-0 defence with the 2. and 4. or 3. and 5. defenders closing attackers down. Space for the line player is limited and dangerous attackers are obstructed far away from the line.

Some will say that this is a 4-2 defence, but is not, because the defender closing down must return to the goal area line and cover the line player when the attacker passes on the ball.

The idea is to put pressure on two backcourt players while also ensure sufficient density by returning to the line. This defence is most often used when we want to leave space for the least dangerous opponent to play - for example, when the opposition has a right-handed player at right back. We must always press two neighbouring players and the goal is to force one of them to pass a long ball to the right-handed player at right back that can be intercepted by the 1st defender, or a long ball to a wing – who then can be stopped by the closest defender. If the right back is a good shooter, the 3rd and 5th defender must close the attackers down. This means that the players will understand their tasks more easily.

An additional challenge can be (especially in senior teams) that the 2. and 4. and 3 and 5. defenders close down alternately depending on the path of the ball (the 2. and 4. when the ball is passed from the LW to the LB, and the 3. and 5. when the ball goes back to the LW). To start playing this defence, the winger must be allowed to start the attack.

For this zone defence to work, good fitness levels are needed and a few general rules must be followed:

- Nobody is allowed to rest in defence and everyone must always be concentrated and prepared.
- If the ball is on one side, the last defender on the opposite side must move towards the middle.
- The two players closing down are individually responsible for their respective attackers.
- They must pay attention to situations when their attacker dribbles the ball - by dribbling, they immediately lose 3 steps.
- A zone defence is successful only when the entire team is involved - individual DISCIPLINE is very important (no sudden interceptions or improvised activities).

This defence cannot be trained only according to the 6-0 zone defence principles. As forward and backward movement is also needed, some elements and principles are taken from the 3-2-1 zone defence.

As always, the goal of this defence is:

DEFENCE IS THE BEST AND EASIEST FORM OF ATTACK!

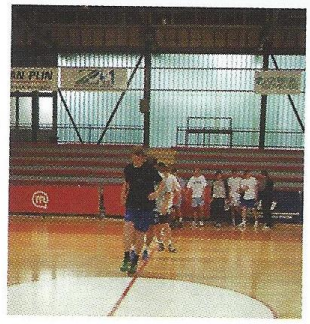
7. METHODS:

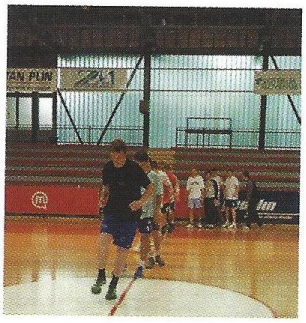
In addition to strength, footwork is especially important for every aggressive defence.

7.1. FOOTWORK EXERCISES - INDIVIDUAL
(RADIČ N. 2008 Rokomet :učenje in vadba aktivnosti v fazi napada, CIP)

The exercises are executed in a queue along one of the lines for about 10 to 15 meters. Players walk or skip back to the starting position:

- A combination of short two-footed jumps: feet apart and together, one foot alternately forward and one back
- Short jumps; one foot goes over the other one; slowly forward



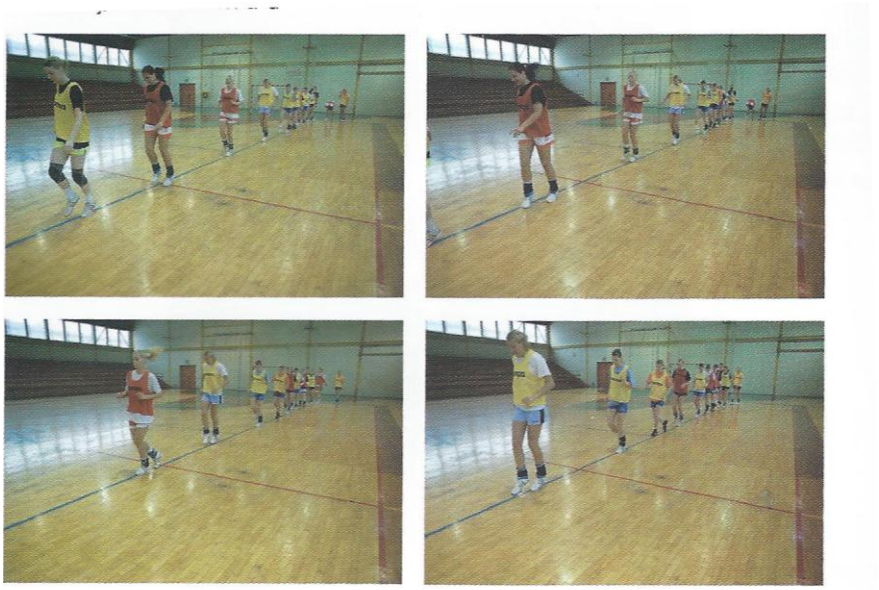



-
- Short jumps; one foot goes over the other one; slowly backward

- 

- Short skips, forward
- Short skips, backward
- Carioca; with the right foot

-
- Carioca; with the left foot
- Jumping on one leg, the other foot is alternately touching the floor at the front and back



- Jumping and crossing the legs; landing with legs crossed; alternately

- Circling one foot clockwise; alternately
- Circling one foot counter-clockwise
- Various exercises on an agility ladder

7.2. FOOTWORK EXERCISES - IN PAIRS

Players are distributed in pairs and are executing the following exercises:

- Both players hold each other's shoulders and they try to step on the other one's feet. Every touch is one point.
- They try to touch the upper body of the other player in a circle with a diameter of 3m.
- They try to touch the lower body of the other player in a circle with a diameter of 3 m.
- They both have a ball; they jump and alternately touch each other with the inside of the feet.
- They both have a ball; they jump and alternately touch each other with the outside of the feet.
- They repeat the previous two exercises and additionally try to exchange balls.
- Catching the dragon's tail
  Players are standing in a queue. A hunter in front of the queue tries to catch the last player in the queue i.e. the dragon's tail. The queue is the dragon and the players must work together and move in different directions to prevent the hunter from touching the tail.
- One player in a pair lies on the floor with legs extended, apart and lifted off the floor by 15-20cm. The other one stands between his legs at shin level. He jumps and the player on the floor brings the legs together. The player in the air lands down with the feet apart, then jumps again and lands with the feet together and so on.

7.3 CONTACT AND AGILITY EXERCISES without and with the ball:

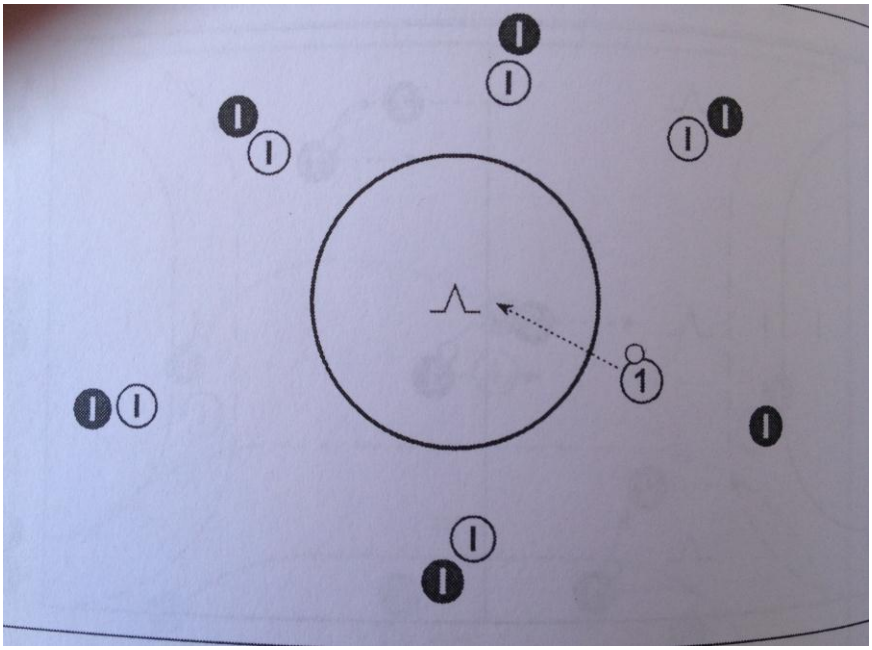
1. without the ball

- Skipping and pushing with arms with and without resistance
- Mirroring the activities of the partner (sideways movement left and right, jumping, sitting etc.)
- 2x jump and hitting the other player's palm
- 2x jump and touching with the chest
- 2x jump and alternately touching with the left and right shoulder
- Sideways movement from cone to cone on the goal area line
- Moving from the goal area line to the free throw line and back
- Moving from the goal area line to the free throw line and back, jumping to block a shot and immediately starting again
- Skipping in place and sprinting to the free throw line

2. with the ball

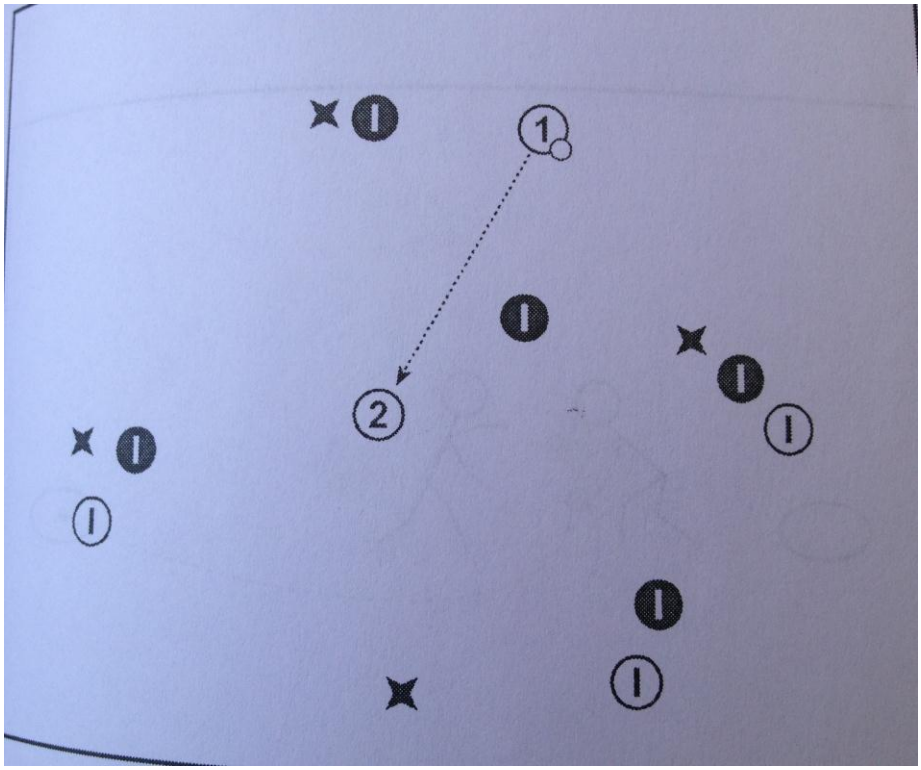
- The attacker indicates a ground shot, the defender closes him down correctly
- The attacker indicates a jump shot, the defender closes him down correctly
- Both players are facing the same direction. The first player dribbles the ball, the other one waits for the right moment to steal it.
- The attacker tries to dribble past the defender; the defender tries to steal the ball.

3. Defence and cone targeting



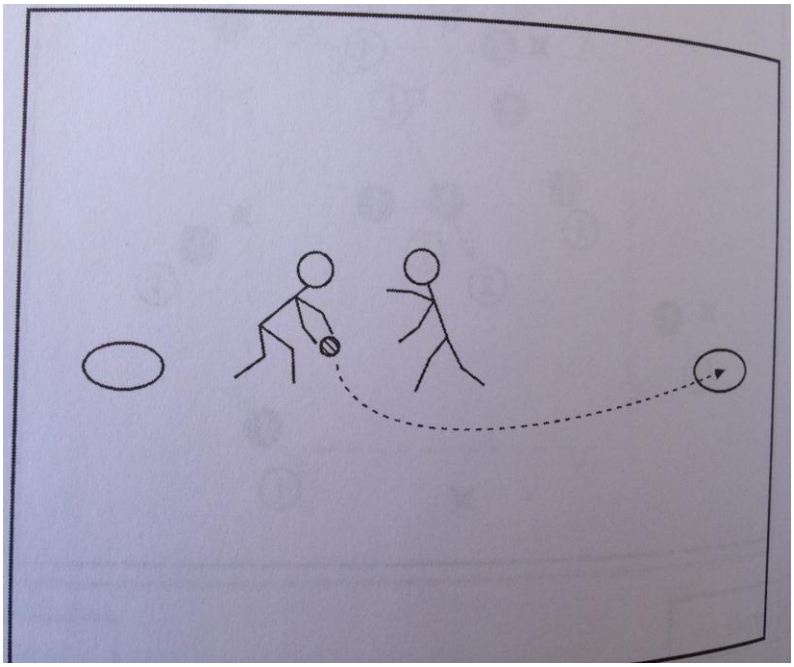
The players are distributed in two groups. One group has the ball and their goal is to hit a cone in the circle around the centre of the court. The other team is positioned around the circle and must defend the cone. The players are not allowed to step inside the circle. Handball rules apply (but no dribbling). Every time the cone is successful defended, the defenders get one point. When the attackers hit the cone, the teams change roles.

4. Placing the ball on the designated location on the floor



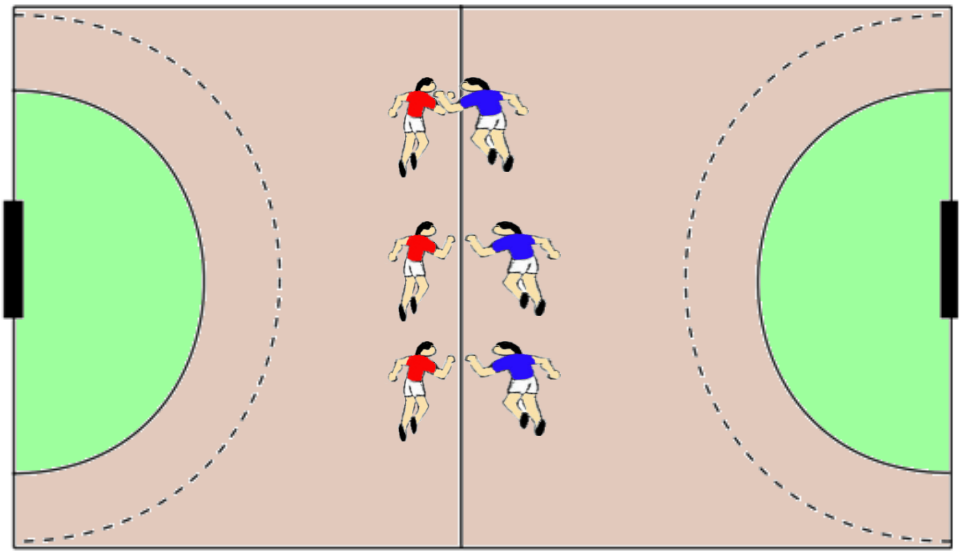
The players are distributed in two groups. We designate spots on the floor (4-5 meters apart) to form a square. The attackers must quickly pass the ball around and try to place the ball on a designated spot. The defenders try to prevent them from doing so by positioned themselves in front of the attackers and placing a foot on the spot (their arms must be behind the back). The game has limited duration and the winner is the team that manages to place the ball on a designated spot at the right time more often than the opposition.

5. Placing the ball in a ring



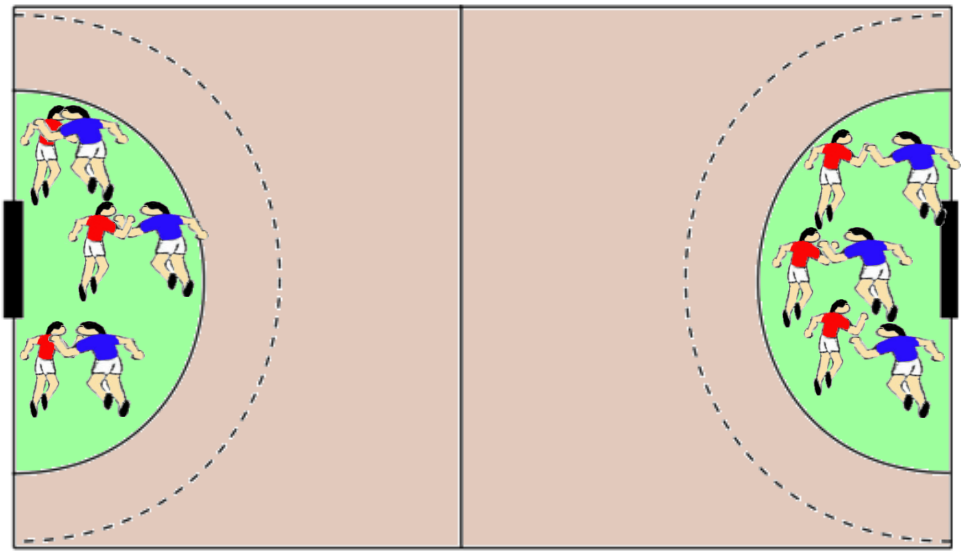
Players are in pairs and every pair has a ball. 5m behind the defender is a ring where the attacker must place the ball. The defender must prevent the attacker from doing so by using handball defensive technique (no roughness). After some time, the players change roles and the winner is the player who manages to place the ball inside the ring more often.

6.



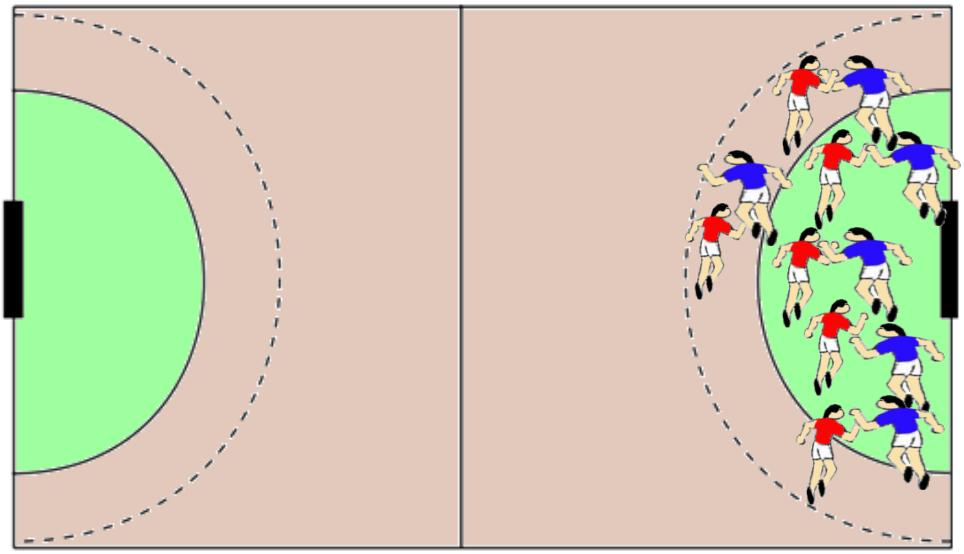
The players are in pairs. One is the defender, the other is the attacker. The defender has his arms behind the back and defends a designated area.

7.



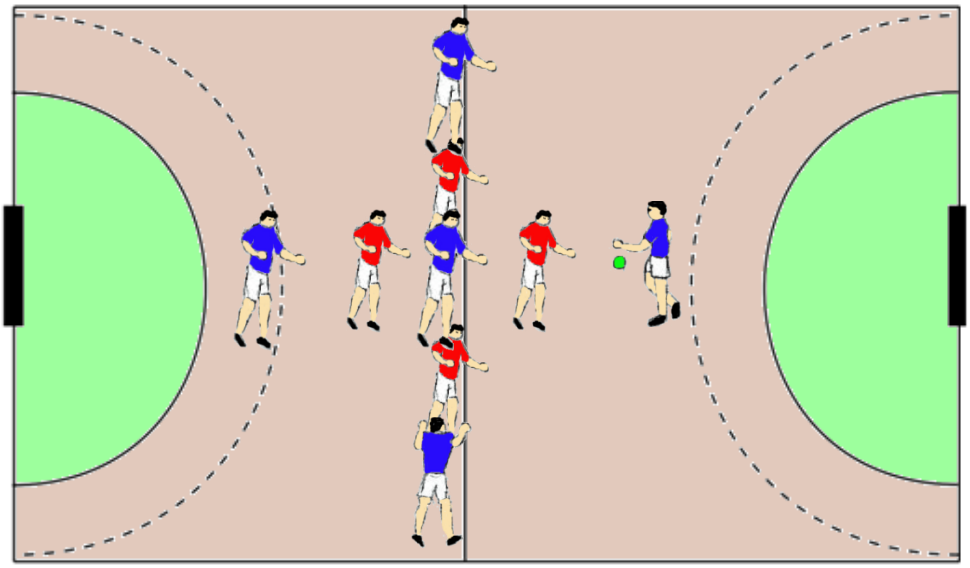
The players are distributed in two groups inside the goal area. The defenders must push the attackers out of the goal area. To make the game more interesting, we can measure the time needed for the defenders to push all the attackers out.

8.



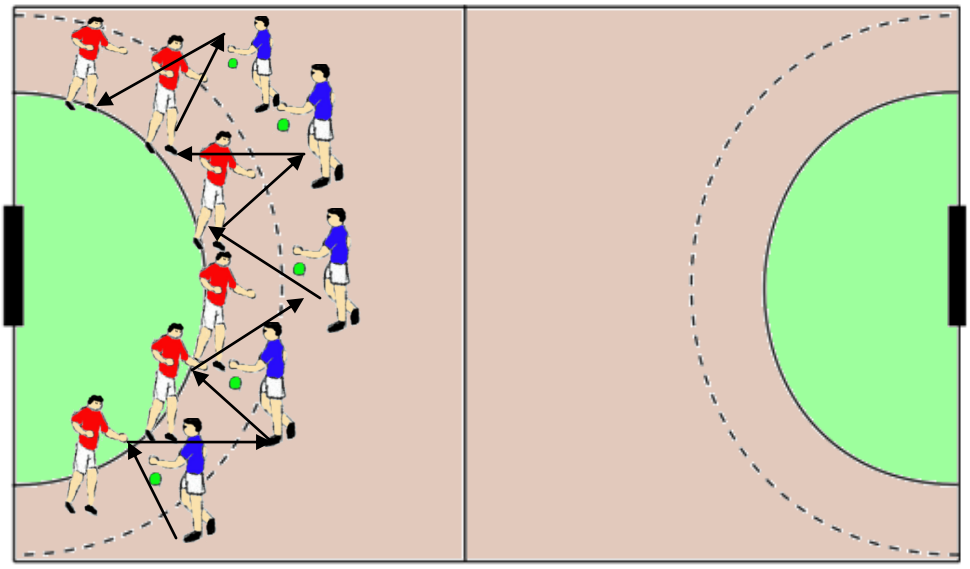
The blue players form one group, the red players form another. They play against each other inside the 9-meter area with one ball. The attackers try to string together 10 consecutive passes without the ball touching the floor. The defenders try to intercept passes or push the attackers outside the 9-meter area.

9.



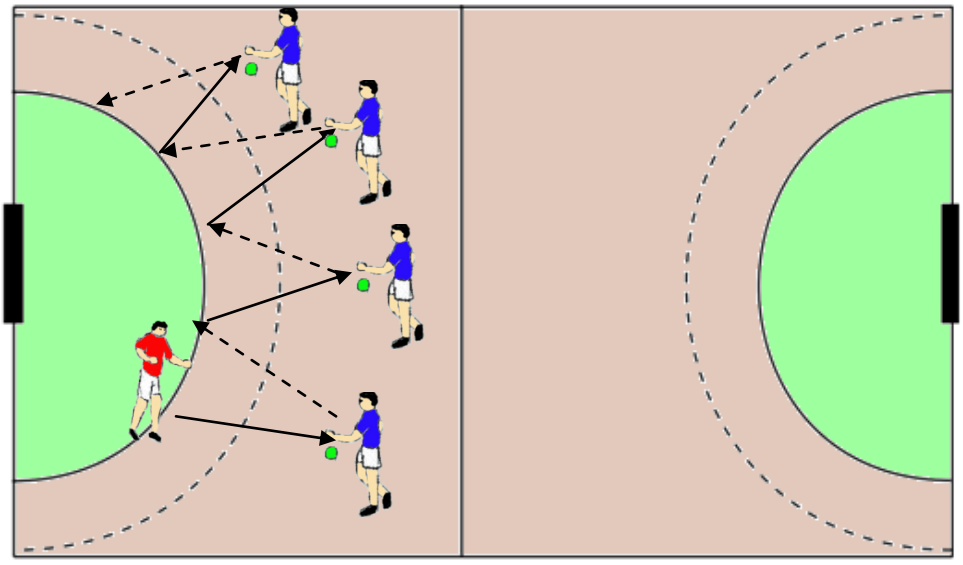
Playing 5-on-4: The blue players are attackers, the red players are defenders. The attackers have an additional player inside the square of red players to whom they try to pass the ball. One defender must close down the attacker with the ball, the other three are responsible for the player inside the square. The ball can be passed in any direction and the defenders must always close down the attacker with the ball.

10.



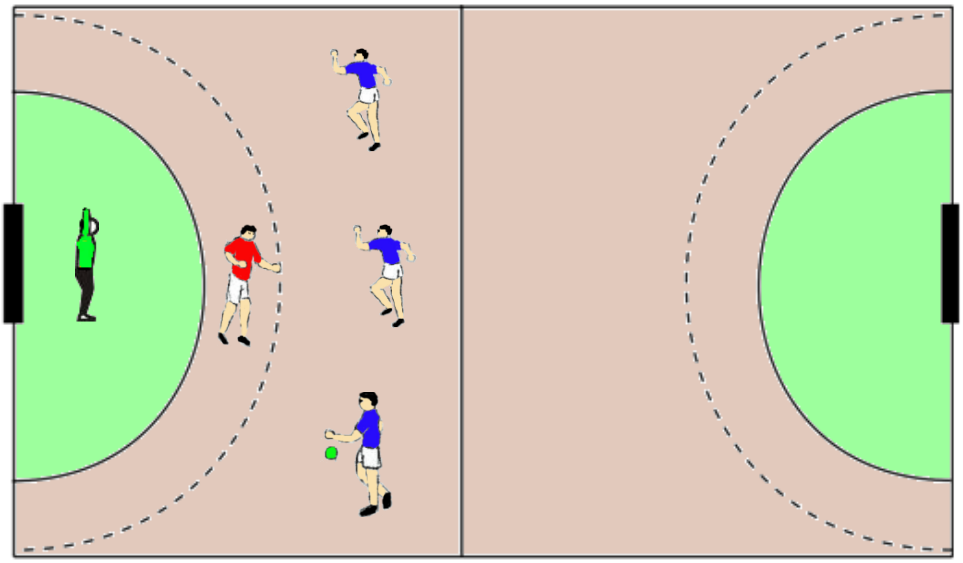
There are 6 defenders. The rest of the players have balls and are standing in one corner of the court. The attackers must try to step inside the goal area between the defenders. The defenders must step closer together and prevent the attackers from stepping inside. For example: The player with the ball attacks the space between the 1. and 2. defender, dribbles back to the free throw line and now attacks the space between the 2. and 3. defender. He again returns to the free throw line, attacks the space between the 3. and 4. defender and so on. At the end, he passes the ball to the goalkeeper and starts a fast break.

11.



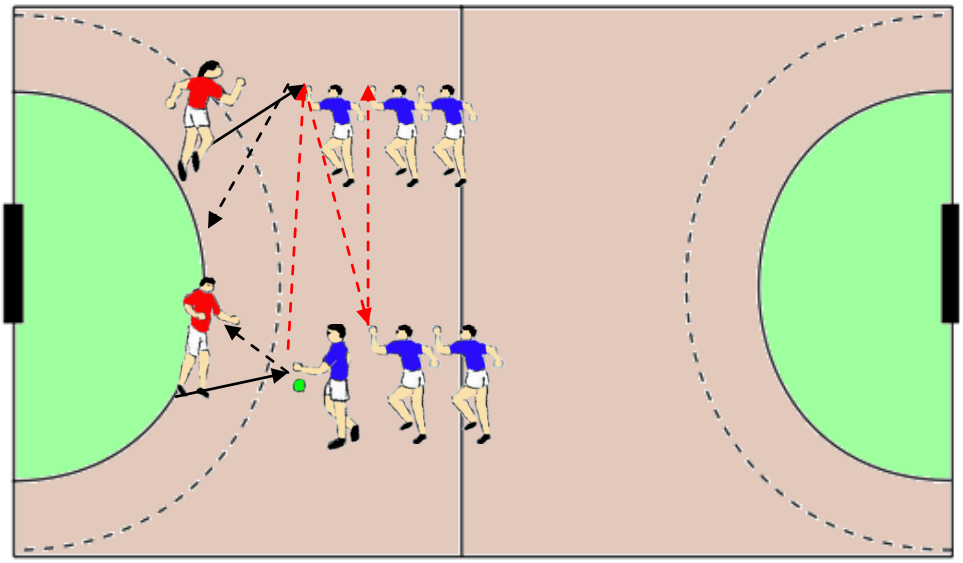
There are 4 attackers and one defender. The defender closes down an attacker to the free throw line, returns on the line, closes down another attacker, returns to the line and so on. After closing down the 4th attacker, he starts a fast break. The 3rd attacker tries to catch him as the goalkeeper passes a long ball.

12.



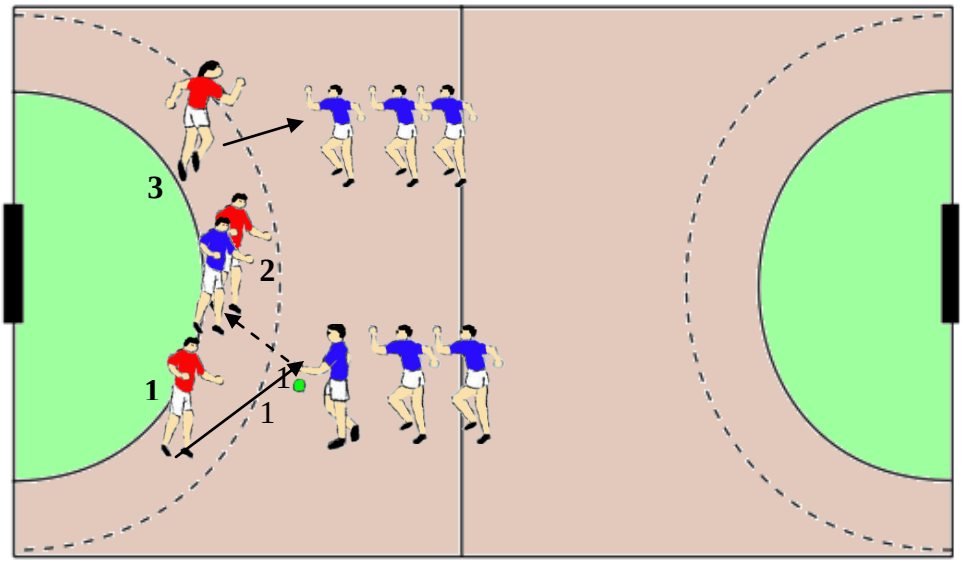
There is one defender and three attackers. The defender tries to position himself in front of the attacker with arms raised. The attackers pass the ball between them. If there is no defender in front of the attacker, the attacker can shoot at the goal.

13.

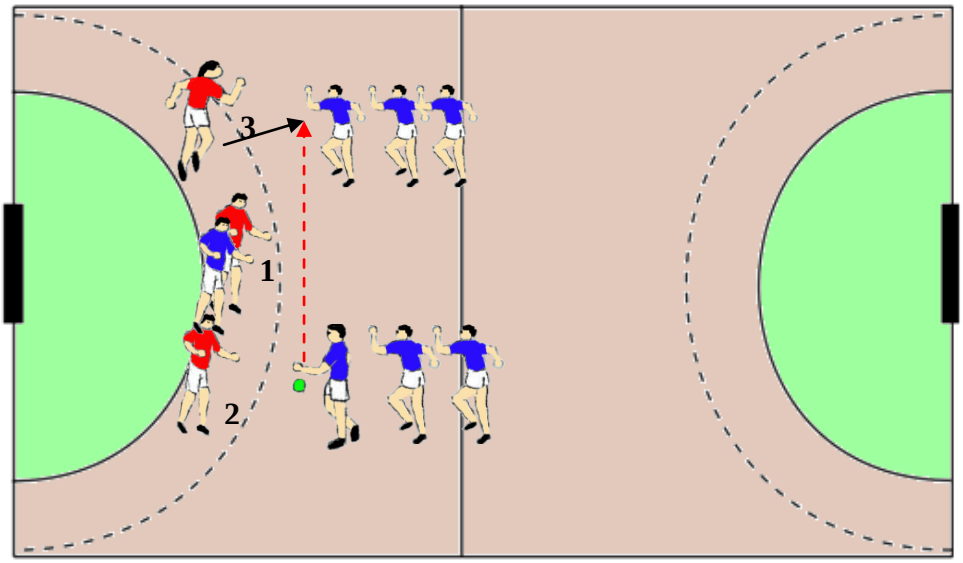


Two defenders are at the 2nd and 4th position, respectively. The other players are standing in two lines. One ball is needed. The task:
The 2nd defender closes down the LB to the free throw line and returns to the goal area line. The LB passes the ball to the CB who is at this moment closed down by the 4th defender. The CB passes the ball back to the LB and the defender returns on the line. The attackers are moving between the lines. The task can be made more difficult by using a (passive) line player. The defenders must, by returning to the line correctly, prevent passes to the LP.

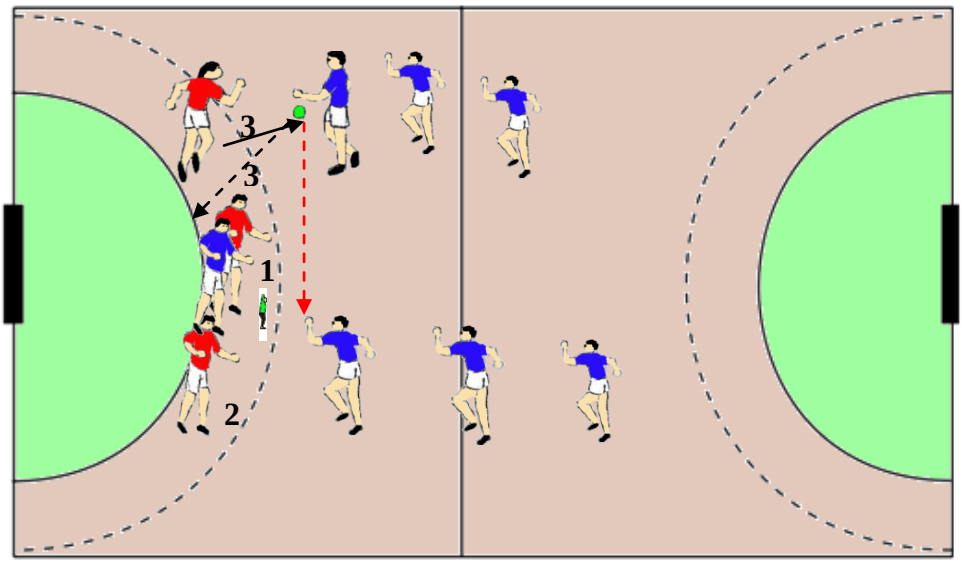
14. Defensive tasks in movement resembling number 8.
There are three defenders, a LP and two lines of attackers:



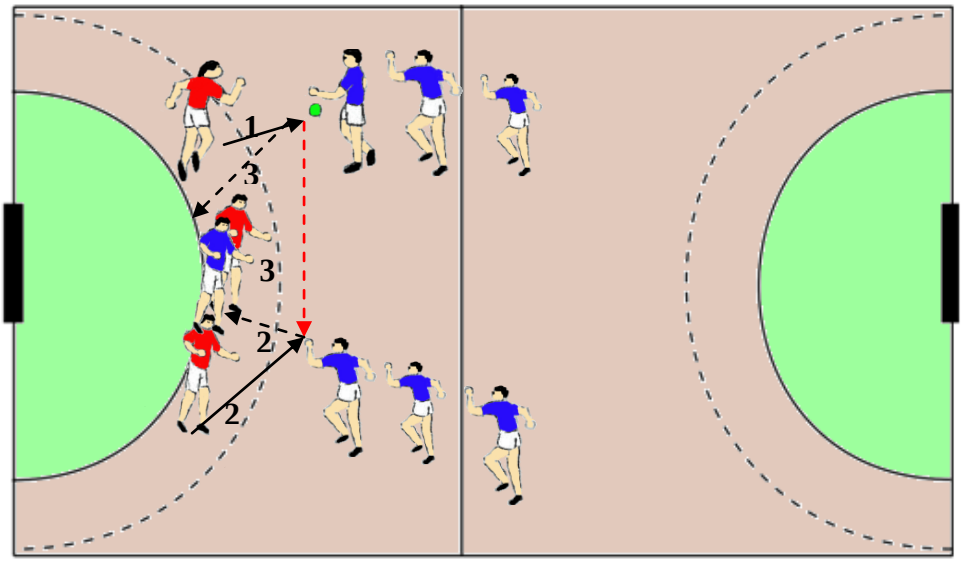
a) The 1st defender closes down an attacker. The 2nddefender marks the LP and the 3rd defender marks the RB.



b) After the ball is passed on, the 1st defender returns to the LP, and the 3rd defender closes down the attacker with the ball.
The 2nd defender stands at the goal area line in front of the LB.

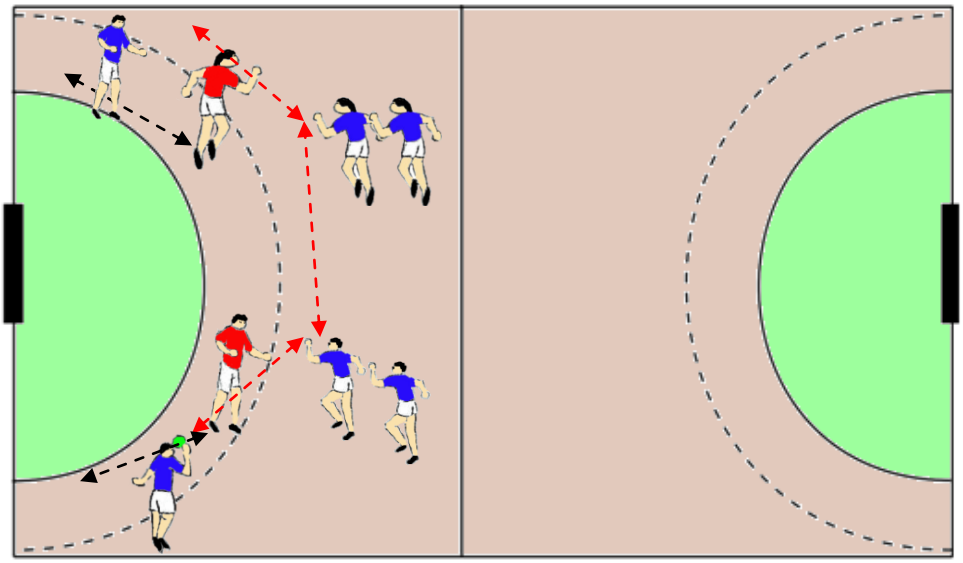


c) After the ball is passed back to the LB, the 2nd defender closes him down, the 3rd defender marks the LP and the 1st defender stands at the goal area line in front of the RB.



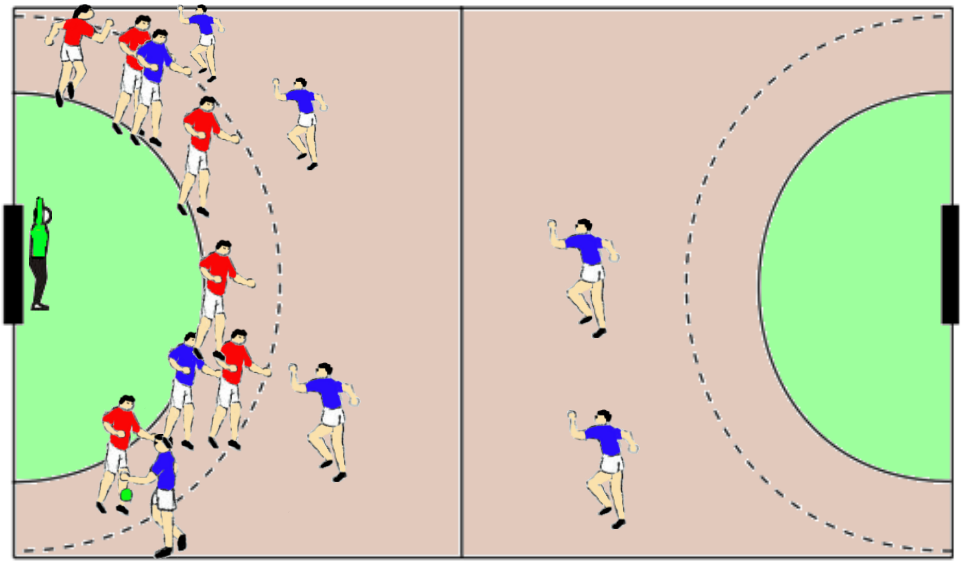
d) The 1st defender closes down the RB, the 2nd defender returns to mark the LP and the 3rd defender stands at the goal area line in front of the LB. The movement of the three defenders resembles the number 8. After changing positions five times, the defenders are replaced.

15.



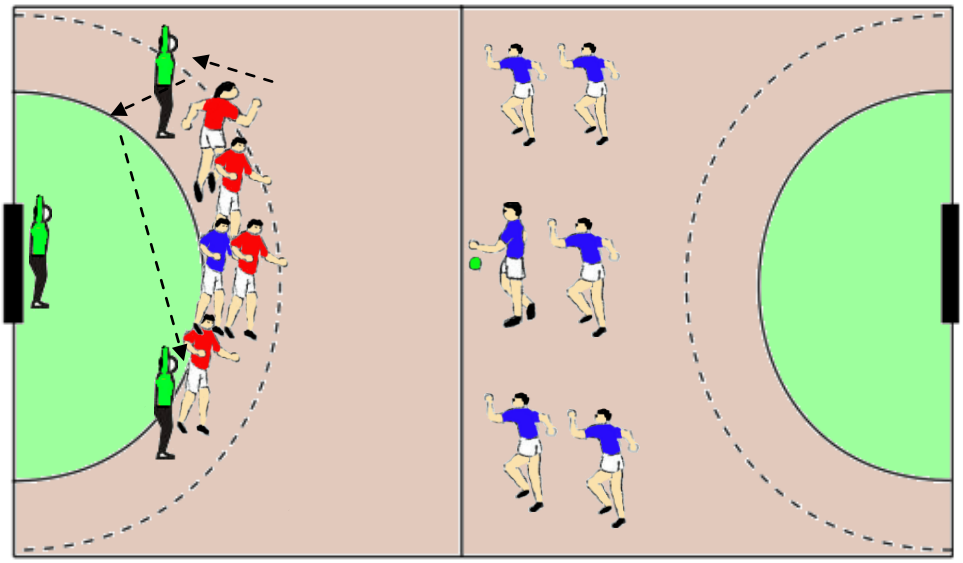
There are 1st defenders on each side, a LW and RW and two lines of players at the LB and RB. The LW passes the ball to the LB. The LB passes it to the RB and the 1st defender on the other side must obstruct this pass. The LB can decide whether to pass the ball to the RB or RW depending on the defender's position. When the ball is returning to the other side, the 1st defender on the other side does the same.

16.



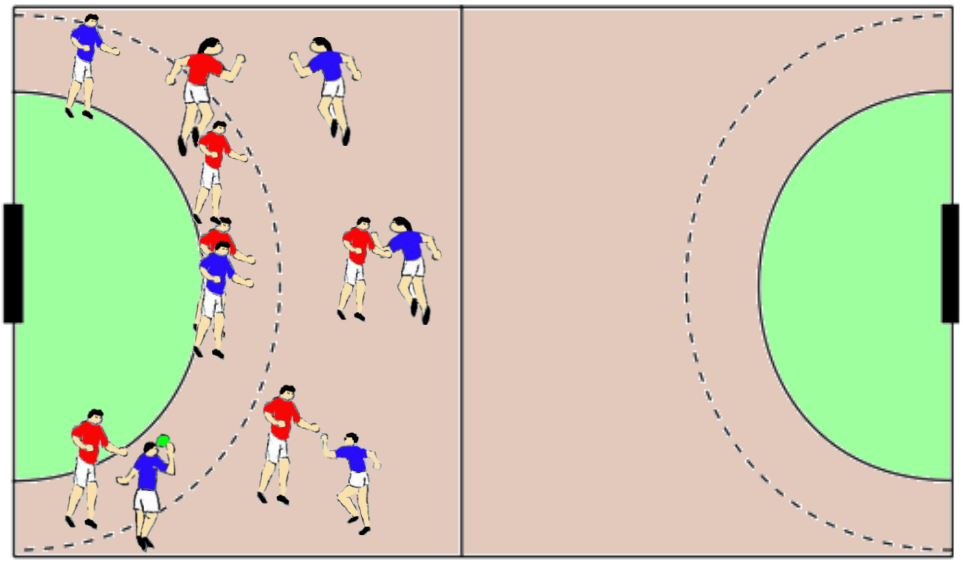
The exercise is executed alternately on both sides. The attackers are LW, LB and LP. The LW passes the ball to the LB, the 2nd defender closes him down and they play one on one. The LP is marked by the 3rd defender. If the 2nd defender is not successful in the one-on-one situation and the LB moves towards the middle, the 3rd defender must help and the 1st defender must cover the LP.

17.

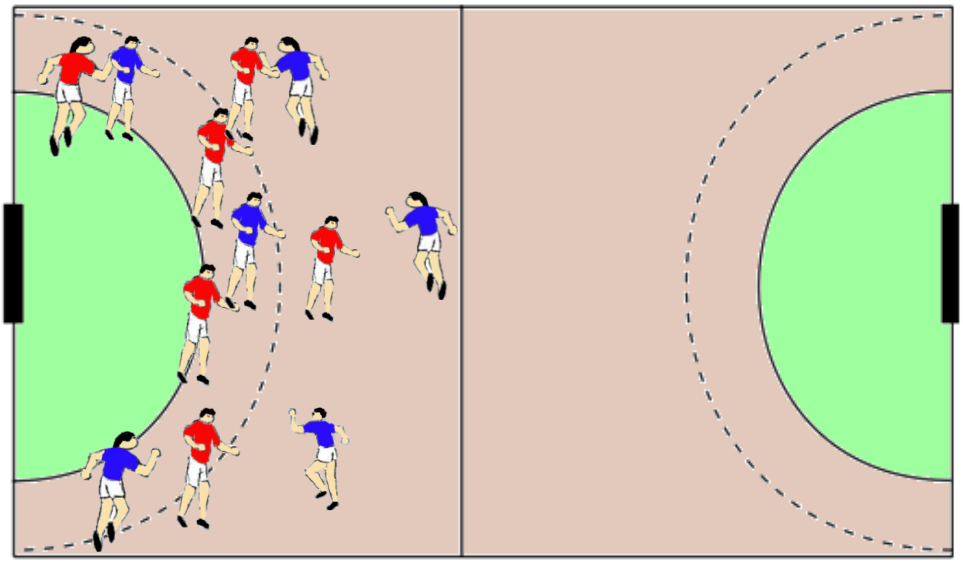


There are 4 defenders and attackers who start at the centre of the court. Two goalkeepers (or cones) are in defence. They play 4 on 4. If the the LB ends the attack, the opposite 1. defender moves behind the goalkeeper to the other side and the other three move one place to the left. The attackers do not wait for the defender to arrive in position, but immediately start a new attack. After some time, the direction of the changes is reversed.

18. A FIGURE OF A STATIC 6-0 DEFENCE WITH THE 2nd AND 4th DEFENDERS CLOSING DOWN THE ATTACKERS ON THE LEFT-HAND SIDE



19. A FIGURE OF A STATIC 6-0 DEFENCE WITH THE 2nd AND 4th DEFENDER CLOSING DOWN THE ATTACKERS ON THE RIGHT-HAND SIDE



In both cases, there are 6 defenders, 6 attackers and a goalkeeper. They play on one half of the court. The attackers try to score and the defenders try to prevent them by executing the designated defensive assignments. Each successful defence is worth 1 point and the winner is the team that collects 5 points first. If the defenders are successful, they remain in defence; if not, they change places with the attackers. The first defence to reach 5 points is the winner. The exercise can be made more difficult by adding an additional line player. This means that we have a 7-versus-6 situation.

I would like to describe the assignments of every individual defender. The defenders are designated a number between 1 and 6 depending on the movement of the ball. When the ball is travelling from the LW to the other side, the outermost defender is called the 1. defender; when the ball is travelling back, the 1. defender becomes the 6. defender.

Assignments of the 1st defender on the left and right

The 1st defender´s role is very important. If they are not focussed on the attacking play, the work of the other defenders is in vain. They must use their agility and inventiveness to cause problems to attackers. They need to practice a lot to get a feeling for helping teammates and intercepting passes.

- They must obstruct their attacker, when this attacker has the ball
- Playing 1-on-2 versus the LB - indicating and intercepting passes
- Helping the 2. defender if the attacker moves into the space on the outside
- Playing 1-on-2 with the LP

Assignments of the 2nd defender on the left and right

They have a double role in this formation depending on the movement of the ball. If the ball is travelling from the LW to the LB, the 2nd defenders must mark their respective attacker

regardless of the LP's position. In this case, they mark and obstruct the attacker before receiving the ball and must play 1-on-1 against him - by offering him space on the outside. When their attackers pass on the ball, they return to the goal area line and help with preventing diagonal passes to the LP. When the ball is travelling from the RW to the RB, they play as a centre-half.

Assignments of the 3rd defender on the left and right

The 3rd defenders have a double role in this formation depending on the movement of the ball. If the ball is travelling from the LW to the LB, they stay on the line and play as a centre-half - they help marking the LP and block shots by the outfield players. Under no condition are they allowed to move away from the line.

Assignments of the 4th defender on the left and right

These defenders have again a double role depending on the movement of the ball. If the ball is travelling from the LW to the LB and then to the CB, they must obstruct passes from the LB to the CB. They play 1-on-1 with the CB and offer them space on their weak side.

Assignments of the 5th defender on the left and right

They play as a centre-half when the ball is travelling from the LW to the RW and are responsible for the RB when he moves into space on the outside. When the ball is travelling from the RW to the RB, their role is a mirror image of the 2. defender's role.

Assignments of the 6th defender on the left and right

- They must obstruct their attacker.
- Playing 1-on-2 versus the RB - indicating and intercepting passes
- Helping the 2. defender if the attacker moves into the space on the outside.
- Playing 1-on-2 with the LP

NOTE:

If the 1st defender fails to intercept a pass to the back and the ball reaches the wing, the situation can be solved by the closest defender who must move towards the wing to reduce the space available for a shot.

8. RESULTS AND DISCUSSION

I would like to repeat once more: if the roles of the (middle four) defenders constantly change, concentration levels must be extremely high. Nobody can afford to forget their assignment. The whole system would collapse. As modern technology allows various types of video analysis, our work can be made easier and we can adapt the defensive assignments to individual opponents.

1. EXAMPLE

If the opposition has a right-handed player playing as the RB, the 2. and 4. defender close down the LB and CB. The 4. defender prevents the RB to pass the ball to the CB and forces him to try playing alone or passing the ball to the RW or LP. To prevent this, we must let the RB start the attack.

2. EXAMPLE

The opposing CB is a typical play maker. This means that he rarely shoots from distance. The RB is a good shooter who most often tries to shoot from the middle. In this case, the 4. defender leaves the CB and is concentrated on closing down the RB who is coming in the middle.

Aggressive defending and pressuring the outfield players without the ball can be a positive surprise for the attackers. It also allows us to quickly transition into fast breaks.

As every defence, this one also has weaknesses. It is especially vulnerable to quick return passes or runs to the line. If a run to the line is made, the assignments and roles must be quickly changed. We can use a zone defence with the 3. defenders closing the attackers down (according to the agreement) depending on the ball movement and LP position.

9. CONCLUSION

Coaches must make decisions in these cases depending on the opposition. Typically, each player must be designated a suitable role and we can achieve sufficient density on the goal area line and respectable depth up to 10 meters. Women’s teams might find it easier to play this defence, because not many female players are capable of scoring from 10 meters. However, even tall male defenders can have good agility and these defensive movements pose no problem for them. Cooperation with the goalkeeper is also very important.

Finally, let's repeat one more time. Technical skill and fitness levels are not enough for good team and individual performances. Players must be familiar with every theoretical and mental aspect of the defensive tactic. The tactic is not without a purpose - it helps the players express their individual advantages compared to the opposition in an organized way. The right tactic and a sufficient level of aggressiveness can lead to good team performances. The team's confidence is won in defence.

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Handball Federation of Slovenia

Slovenian Handball Coaches Association

Master Coach Course

QUICK THROW-OFF AFTER CONCEDING A GOAL

(Seminar paper)

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Abstract

Handball has become a very fast game over the last 10 to 15 years. The most obvious practical changes are the following: A lot of attacks end within a few seconds - long slow attacks with lots of interruptions are a thing of the past. As a consequence, the number of attacks per match has increased. Teams start fast breaks almost every time they win the ball in defence and they try to restart the game as soon as possible after conceding a goal. On average, teams score more "easy" goals per match and quick throw-off after conceding a goal is very important in this regard.

Keywords:

handball, fast break, extended fast break, throw-off, tempo of the game (deliberate high speed)

1 INTRODUCTION

Handball is constantly changing. The number of individual, group and collective technical/tactical elements used by players and teams is increasing all the time. This means that the way the game is played is also changing. These changes are almost impossible to follow without careful analysis. Experts use it to discover new trends in handball development. By analysing matches, we can determine the factors that separate successful teams from less successful ones. Coaches can also address deficiencies in the strategies they selected for a particular competition. However, analysis is the most useful in terms of opponent preparation. Careful analysis allows us to pinpoint the deficiencies and weaknesses of our team and the opposition. In addition, analysis allows coaches to exactly determine which opposition players present the greatest danger. Having this information makes match preparation and tactical planning much easier. Analysis is very important for less experienced coaches as well, because it offers them an unbiased insight into the structure of the game. The basic data on player attributes can also be used by journalists in their articles.

1.1 Handball match analysis

A handball match is most often analysed from technical and tactical aspects. This allows us to gather various data to use in descriptions of individual players or the whole team. The statistical data used in team descriptions are: the number of attacks per match, attack success rate, the number of fast breaks, fast break success rate, attack duration, the success rate of attacks with a numerical advantage/disadvantage, shot success rate from various positions, goalkeeper success rate etc. These analyses are used for virtually every important competition on various levels from U17 upwards. Their use is not just preferable, it is essential if we want to be successful. Analysis also allows coaches to record attributes of different players playing at various positions and how they react in certain circumstances. The development of technology and its accessibility has led to wide use of video analysis. This allows us to see certain situations repeatedly and show them to players as well. They can directly see the opponent they will be marking during the match and the goalkeepers can analyse how opponents execute 7-meter shots etc. They can also analyse their own mistakes in past matches and try to fix them in training. This leads to a high level of tactical preparation in all aspects of the game. The analysis of the game itself and various development trends is taking place in Slovenia as well. The results are usually published in *Trener rokomet*, a free-of-charge magazine for Slovenian handball coaches. The authors of the study *Match Analysis in Terms of Phases and Subphases of the Game* (Bon, Šibila, Pori, 2001) measured the time each team spent in attack and defence. The authors of the article *All Teams Play Fast, Winners Just More Successful* (Bon, Tomazini, 2007) summarized the analysis of the 2004 European Championships in terms of attack duration, shot success rate and the success of individual teams in relation to these aspects.

1.2 Data collection and their usefulness

In the last few years, handball saw enormous improvement in quality in countries where handball has until recently been considered less developed. A greater number of nations can now play high-quality handball and the gaps between teams are smaller. With teams being this equal, good opposition analysis plays an even more important role when preparing for competitions. At the highest level, opposition must be analysed before every match to pinpoint their weaknesses and strengths. Good analysis and proper preparation allows weaker teams to successfully compete against stronger ones. Coaches can collect data in various ways. They can watch opposition matches live and make notes about the way they play. However, they only have a limited amount of time available and their observations must be noted down immediately, because the match is live and there are other things to note. It is much easier to analyse opposition (as well as your own team) with the help of videos. Computer software can also be used. Time is not an obstacle and we can study various match sections in greater detail. The following factors should be observed when analysing an opponent:

What defensive system do they use?

- ✓ Do they use zone or combined defence?
- ✓ How do teammates help the defender who lost their attacker?
- ✓ How do they defend when they have a numerical advantage?
- ✓ How do they defend when they are at a numerical disadvantage?
- ✓ What are the weaknesses of their defence and where are the weak links?
- ✓ How do they return into a zone or combined defence and how do they prevent fast breaks?
- ✓ Are there players who are over-aggressive and who they are?

What attacking system do they use?

- ✓ Analysing the basic attacking set-plays against a particular zone or combined defence
- ✓ What positions do the best players most often shoot from and from where are they most effective?
- ✓ How do individual players shoot on goal?
- ✓ How are the shots spread across the goal surface?
- ✓ How do they start fast breaks?

In addition, coaches must pay attention to a few other factors:

- ✓ Substitutions during transition between attack and defence and vice versa
- ✓ Goalkeeper characteristics
- ✓ Mental and physical condition of the team
- ✓ Time spent in attack

Coaches must analyse their teams according to these criteria as well. This information represents valuable feedback that is essential for progress. It allows coaches to decide which segments of the game to focus on and, during tactical preparation; coaches are able to devise attacking plans so that the most in-form players would be finishing attacks. Moreover, they can also prepare alternatives, in case the opposition finds a way to thwart the original plans. In other words, these data can be subsequently used to design the training process and select the appropriate training methods. They allow us to take advantage of the weaknesses of the opposition and to prevent them to exploit ours.

1.3 Handball structure

For proper analysis, we have to have good knowledge of the structure of the game. Handball can be broken down into phases or parts. At the basic level, there are two main phases.

- **Defence** - The opponent has the ball and the team tries to prevent them from scoring a goal.

- **Attack** - The team has the ball and tries to score a goal. The attack is when one team has the ball and lasts from the moment they win it to the end of the attack or to the moment they lose the ball. The objective of the attack is to prepare an opportunity to score with individual or collective activities. We distinguish between attacks against a man-to-man defence and attacks against a zone or combined defence. The first include a greater amount of dribbling, running into open space, screens and individual activities. When playing against a zone defence, the collective aspect becomes more important, because it involves more passes, catches and group set-plays that allow a team to finish attacks successfully (Bon, Šibila, Pori, 2001).

Attacks can be further broken down into:

- ✓ The **fast break sub-phase** - It can involve a single player, a group of players or the whole team.

Modern handball has also seen the emergence of the "extended fast break" which is used when defenders have already returned to their goal area line but haven't yet formed a defensive formation (= set defense).

- ✓ **The attack sub-phase when teams attack a zone or combined defensive formation**

(Šibila, Bon, Pori, 2001). Individual phases and sub-phases are also the basis for technique and tactics classification in handball. Attacking technique classification in handball (Šibila, 2004):

- without the ball: positions, walking, transitions from walking to running, running, stopping, changing direction, turning, jumping, diving and getting back on your feet.

-with the ball: positions, dribbling, catching, passing, shooting, faking, feinting, screening.

Offense tactics classification in handball (Šibila, 2004):

Individual:

- ✓ Player movement
- ✓ Foul evasion
- ✓ Shots
- ✓ Feints

Group:

- ✓ Making yourself available (Demarking)
- ✓ Running into open space (Spacing)
- ✓ Crossing
- ✓ Pick and Roll
- ✓ Give and Go
- ✓ Running up and passing

Collective:

Fast break: extended fast break, attack against a zone or combined defence (with one line player, with two line players), special situations (numerical advantage, numerical disadvantage, free throw). When preparing attacking tactics, we must be able to analyse the defensive system of the opposition, i.e. we must be familiar with their subphases. In terms of tactics, our attack must focus on the weaknesses in the opposition defence. The defence is the phase when the opposition has the ball and the team tries to prevent the opponents from scoring a goal. Handball teams can use man-to-man, zone or combined defences. The basic characteristic of man-to-man defence is that every defender is responsible for one of the attackers. On the other hand, the basic idea behind a zone defence is defending space. Defenders control a particular zone on the court. As the name suggests, combined defences combine zone and man-to-man systems (Bon, Šibila, Pori, 2001).

Defence can be further broken down into:

- ✓ Transition sub-phase when players are returning into defence in an organized way to prevent the opponents from carrying out a fast break. Their goal is to position themselves according to the agreed-upon defensive system (man-to-man, zone, combined) in the shortest amount of time.

- ✓ The sub-phase of defending using a zone or combined defensive system or man-to-man defence (Šibila, Bon, Pori, 2006).

2 SUBJECT

When watching handball, we can often see teams trying to execute a quick throw-off after conceding a goal to gain an advantage over the team returning into defence. This has become almost a standard weapon in the tactical arsenal of many teams playing at the highest level. However, teams at lower levels also use it in various ways. The main reasons for these changes are the following:

- ✓ The rules of the game have changed.
- ✓ Full zone defences have become much better - it has become very difficult to score goals once a zone defence is fully set.
- ✓ The physical, technical and tactical preparation of players has improved and adapted to the specific demands of handball.
- ✓ There should be no doubt that these changes affect the way teams train and coaches must select those methods that support quick tempo in all phases.

2.1 Objectives of quick throw-offs

The objectives of quick throw-offs are multi-layered. The most important ones are:

- ✓ The first and definitely the most important one is to score as many goals as possible in situations when the opposition haven't correctly returned into a zone defence after scoring a goal.
- ✓ A team capable of executing quick throw-offs after conceding goals will affect how the opponents return into a zone defensive formation. A significant factor here is that the opposition is unable to substitute attacking specialists for defensive ones - this prevents them from forming the optimum defensive formation. It can also have an effect on the coach's decision on which player will play in attack: if a coach believes that a certain player is not good enough defensively and it would be difficult to substitute them for a defender even when a goal is scored.
- ✓ Mental effects - To score a goal after a quick throw-off gives an enormous lift to the entire team, while the opposition loses confidence. Players must be taught that they should not think about the goal they just conceded, but rather focus on immediately attacking the opponents by executing a quick throw-off. They will have no time for negative feelings or blaming their teammates for conceding. They will be able to think positively and will immediately focus on playing the game.
- ✓ A more efficient way of taking advantage of certain team and player abilities - better physical, technical/tactical and mental preparation.

Training quick throw-offs is a good way to improve the players' physical abilities and technical/tactical skills in difficult circumstances. However, there are many risks related with quick throw-offs:

- ✓ Players must be in good physical condition
- ✓ The possibility of technical mistakes is high
- ✓ Teams can lose control of the game
- ✓ Often the best possible positioning of players in defence is not the optimal starting point for quick throw-offs (i.e. defensive specialists), which will diminish the chance of success. However, it is also a good opportunity for players who don't get many chances in attack to show off their attacking prowess.
- ✓ These issues can result in defeat and some might say that the players are running around like headless chickens regardless of the circumstances. This is why it is very important for players and teams to regularly train quick throw-offs after conceding in training sessions and practice matches.
- ✓ Coaches must have a selection of exercises that can improve the execution of quick throw-offs and other activities following a conceded goal. The exercises must offer players tactical freedom to adapt to actual circumstances that can take place during quick throw-off execution.
- ✓ Players must be able to recognize various situations that can take place after conceding a goal and the reactions of the opponents during transition and then respond accordingly.
- ✓ The ability to change the rhythm and select another attacking method is very important in these cases.
- ✓ Exercises must be designed in line with the rules of the game regarding throw-off – The attackers' approach to the centre line and the referee's signal for throw-off must be perfectly timed.
- ✓ Sadly, it often occurs that referees order the throw-off to be repeated and players to return behind the centre line.

2.2 Quick throw-off

In recent years, players are trying to execute the throw-off as quickly as possible. This is a form of a fast break, because the opposition defence is not yet formed or the opposing team is still substituting attacking specialists with defensive ones or the opponents haven't yet been able to form an appropriate zone or combined defensive formation. The crucial moment occurs when the opponents are almost back in defence, but haven't yet positioned themselves along the goal area line. The attackers can take advantage of this by executing a quick throw-off and score an "easy" goal (easier than against a set defence) (Nahrstedt, 2001).

Based on all of the above, the last 15 years saw handball become one of the fastest games in the world. The main characteristics of fast breaks can be condensed into the following statements:

- ✓ The importance of fast breaks is still rising.

- ✓ All teams playing at the highest level have a fast break plan that includes the sequence of players leaving defensive positions and running into a fast break, as well as the activities related to the fast break width and depth.
- ✓ In fast breaks, players are becoming more creative while still following their team's playing system.
- ✓ Players run into logical positions to receive the ball with faster and more agile players being more successful.
- ✓ Group cooperation has advanced greatly - almost all two-on-one, three-on-two or four-on-three situations are finished successfully by the attackers.
- ✓ During extended fast breaks, players use a lot of the activities normally associated with playing against a zone defence - running into open space, crossing, running up and passing. The execution speed is high.
- ✓ As the rule regarding throw-offs changed, throw-offs have become an increasingly frequent method of launching a fast break.
- ✓ Some teams launch a fast break without substituting players first - they do that later. Others substitute players during a fast break and adapt the sequence of players leaving defensive positions and movement on the court during a fast break. These substitution trends have multiple reasons:
- ✓ The time spent in attack is shorter, because substituting a defensive specialist for an attacking one after an unsuccessful fast break or even an extended fast break takes too much time (passive play). This serves as an advantage for the attackers, because making substitutions while returning into defence is difficult and it becomes impossible later when the attackers are already in an attacking formation. Because defensive specialists are usually less successful in fast breaks and extended fast breaks, substituting them makes sense from this point of view (Šibila, 2002).

Fast breaks do not include only those following a lost ball by the opposition; we are focusing particularly on those fast breaks which are important from the organizational point of view:

- ✓ A team is good at fast breaks, if they can take advantage of every ball they win
- ✓ A fast break starts as soon as we are able to predict that the opposition will lose the ball
- ✓ A fast break lasts until we create a good opportunity to score (Goršič, 1997)

The advantages of teams able to execute efficient fast breaks:

- ✓ A huge mental effect on the opposition
- ✓ A fast break is a great weapon against good defence and opposition tactics
- ✓ Taking advantage of our strengths
- ✓ Taking advantage of our goalkeeper's quality
- ✓ Fast breaks away from home can be a "secret weapon"
- ✓ Fast breaks must be a constant element in the way we play
- ✓ Fast breaks should be launched even in unusual situations
- ✓ Fast breaks are very popular with the spectators
- ✓ Youth players also enjoy playing fast
- ✓ Frequent fast break training has multiple positive effects (Goršič, 1997)

Some of the weaknesses and issues related with fast breaks:

- ✓ Fast breaks demand good individual technique and tactics
- ✓ The tempo of the game must be adapted to the players' skill level
- ✓ Players must always accept that mistakes happen
- ✓ Practicing various situations reduces the number of mistakes
- ✓ Training sessions are diverse and interesting (Goršič, 1997)

2.3 Fast break and quick throw-off

Fast break is a very frequent action in modern handball. The number of goals scored from fast breaks is rising. Many believe that every attack should start with a fast break. Most teams at the highest level have clear situation-fixed plans for the sequence of players leaving defensive positions after winning the ball. They also have a concept of player movements on the court and how they can logically cooperate. When playing a shallow zone defence (e.g. 6-0), the first players to leave their positions are normally the first left and right defender; when playing a deep zone (e.g. 3-2-1) the first players are usually the three defenders who are a bit further away from the goal area line. Other players are responsible for safely and quickly transferring the ball to the other side of the court. A fast break starts after an interception, after a free throw, throw in, a goalkeeper throw due to various mistakes made by attackers, after a blocked shot or a won ball or after a successful goalkeeper's save. In recent years, an intermediary phase between a fast break and an attack against a zone or combined defence has become known as the "extended fast break". This term includes all individual, group or collective activities that are carried out by attackers after the fast break has seemingly ended (and the attackers haven't been able to score); the defenders are already back on the goal area line, but the defensive formation has not yet been fully formed. The attackers can surprise the defenders who, although they are already back in defence, have not yet formed a complete zone or combined defensive formation and are not yet able to cooperate with each other. The extended fast break basically includes a combination of activities used in classical fast breaks and attacks against a full defensive formation. The changes to the rules of the game regarding the throw-off allow fast breaks to be launched even after conceding a goal. The rapid development of fast breaks in recent years is a consequence of the fact that fast breaks offer the fastest and easiest opportunity to score a goal. In addition, shot efficiency in fast breaks is higher compared to attacks against a full defence (Šibila, Bon, Pori, 2006).

Quick throw-off has become a frequent attacking method in recent years. It can be described as a type of a fast break. An attack after a quick throw-off can finish after one pass only. In this case, it is usually the fastest player with the best feinting ability who receives the ball from the throw-off. This player tries to run past or feint his way to the goal area line, or create an opportunity for teammates before the defence is formed. This tactic is normally successful only once, or twice at most, because opposing teams can quickly adapt and form the defence. This means that quick throw-offs become a type of an extended fast break. The defence may be fully or partially formed (one player is missing, usually the shooter). In this case, the ball is circling around the defence and the attackers are looking for openings where the defence is not yet fully formed. In addition, the defenders are not yet fully concentrated on defending and can often make a mistake. Quick throw-offs take advantage of slow transition by the defenders - the slowest player is usually the one who shot on goal. This means that the attackers do have numerical advantage. At the highest level, teams almost always substitute

offense specialists with defensive ones. Quick throw-offs prevent them from doing so. The mental aspects must also be emphasized. To score a goal after a quick throw-off gives an enormous lift to the entire team, while the opposition loses confidence. Players must be taught that they should not think about the goal they just conceded, but rather focus on immediately attacking the opponents by executing a quick throw-off. They will have no time for negative feelings or blaming their teammates for conceding. They will be able to think positively and immediately focus on playing the game (Šibila, 2009).

3 EXERCISES TO PRACTICE QUICK THROW-OFFS AFTER CONCEDING A GOAL

Exercise 1

Players are distributed in two groups with each player having a ball. The groups are standing at the diagonal corners of the court. Both groups start running and dribbling the ball towards the centre at medium speed. They stop for a moment on the centre line, then give themselves a signal (e.g. "Go!") and start dribbling the ball towards the corner on the opposite side. The speed is now higher and the players must visible accelerate after the signal. At the end, they start moving along the goal area line in the basic defensive stance (other movements between the goal area line and the 9-meter line are also possible) (Figure 1).

Figure 1: The first step of the exercise

As an alternative, the players can execute various coordination exercises at the start and while waiting on the centre line. The throw-off, i.e. the start of dribbling, takes place at the centre of the court (they again give themselves a signal) (Figure 2).

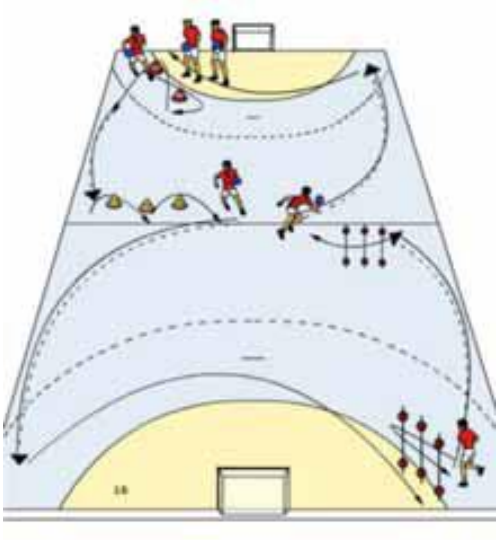


Figure 2: The second step of exercise 1

The third step includes a few simple technical activities that the players can execute in cooperation with wings and line players (e.g. two passes in piston movement and a shot on goal - to warm up to goalkeeper). The wings and line players can change after every repetition or they can stay for the duration of the entire exercise (Figure 3).

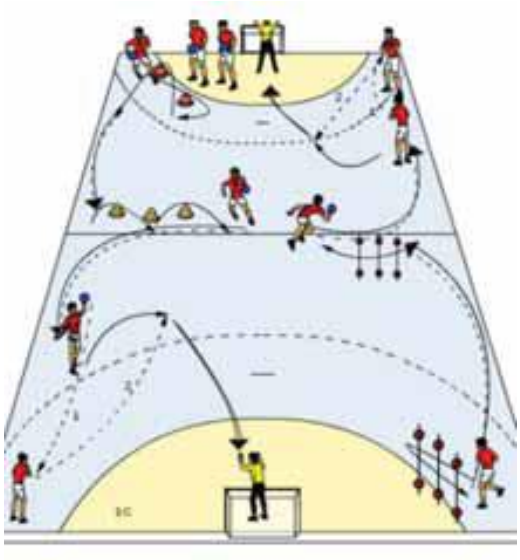


Figure 3: The third step of exercise 1

Exercise 2

The initial positioning is similar to the previous exercise. The players form pairs and pass the ball to each other while running towards the centre line at medium speed. Before reaching the line, they stop for a moment and then, after giving themselves a signal (e.g. "Go!"), continue passing the ball. This time, they must run faster with visible acceleration after the signal. When both players in a pair arrive to their playing positions (wing, back), they execute a few simple attacking activities - passing in piston movement, crossing - and finish by shooting on goal. Then they move on to the other side.

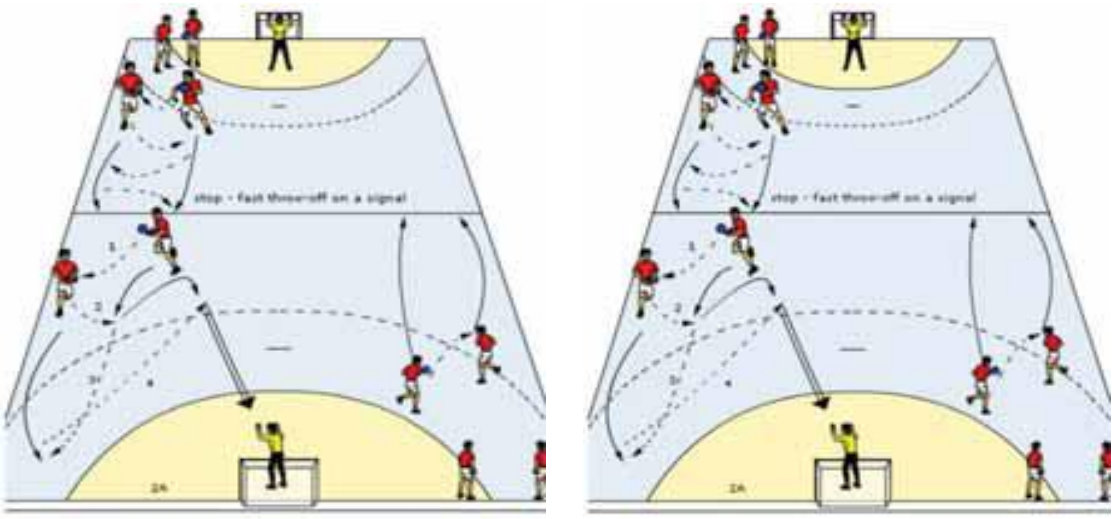


Figure 4: Exercise 2

Exercise 3

The players are standing in two lines in the centre of the court with every player having a ball. One player is positioned at each edge of the court. At the signal of the coach, one of the players on the edge runs towards the goal and the first player in the corresponding line in the centre passes the ball. A defender on the opposite side tries to intercept the pass, so the receiver must be careful and adapt (i.e. move into open space) the positioning. After receiving the ball, players dribble towards the goal and shoot. One of the players from the centre replaces the player on the edge. The exercise is repeated at both sides of the court without stopping.

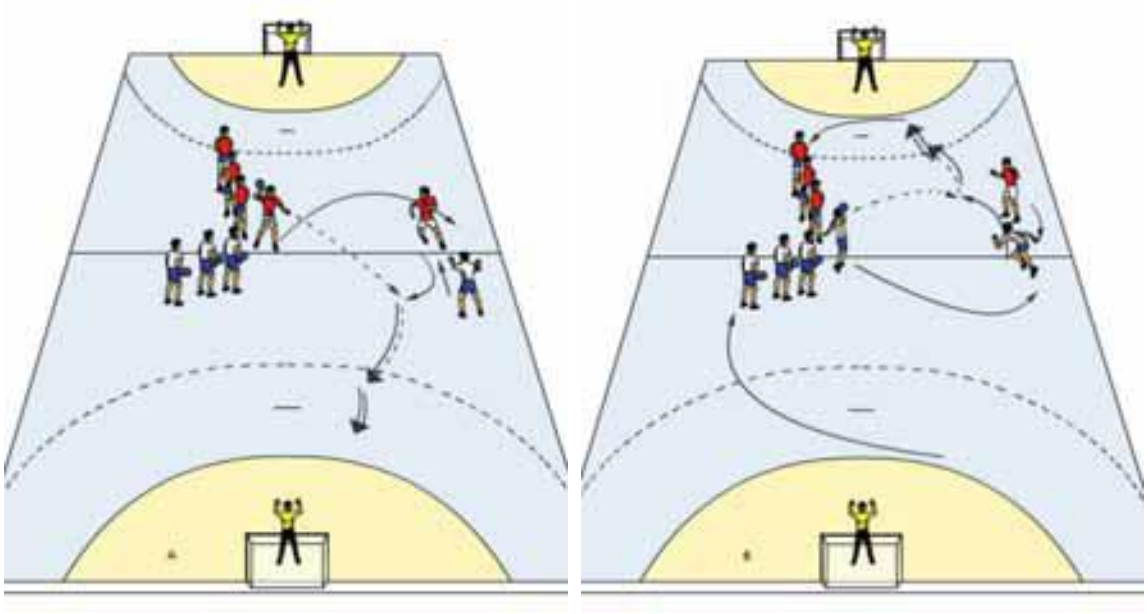


Figure 5: Exercise 3

Exercise 4

A wing and a back are positioned in attack. Defence consists of the first and second defender. The attackers exchange two passes in piston movement, then the back shoots over the defender. The defenders immediately run towards the centre, the second defender positions himself on the centre of the court, receives the pass from the goalkeeper and throws the ball off at the whistle. The former attackers try to return into defence as fast as possible. The attackers who executed the throw-off try to score a goal in a two-on-two situation by taking advantage of a successful quick throw-off while the defenders are still running back. The attackers can also be helped by an additional teammate (the initial defence consists of three players). In this case, we will have a three-on-two situation in which one of the attackers will be a line player.

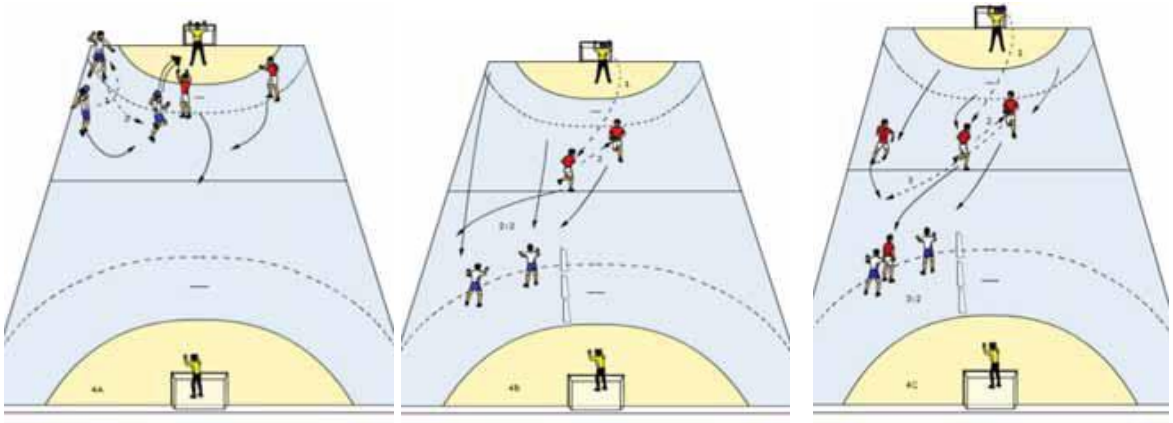


Figure 6: Exercise 4

Exercise 5

The attack consists of the centre and left back and the left wing. The defence consists of three defenders at corresponding positions. The attackers are passing the ball in a piston movement: CB-LB-LW. The first defender tries to intercept the pass between the LB and LW (by aggressively running forward), but is not successful. The LW receives the ball and shoots on goal. After unsuccessfully trying to intercept the ball, the first defender runs towards the centre to receive the pass from the goalkeeper to execute the throw-off. Together with the two teammates, he tries to execute a quick throw-off. The opposing group of players tries to return into defence as fast as possible. After throwing-off, the attackers try to gain a tactical advantage and create an opportunity to score.

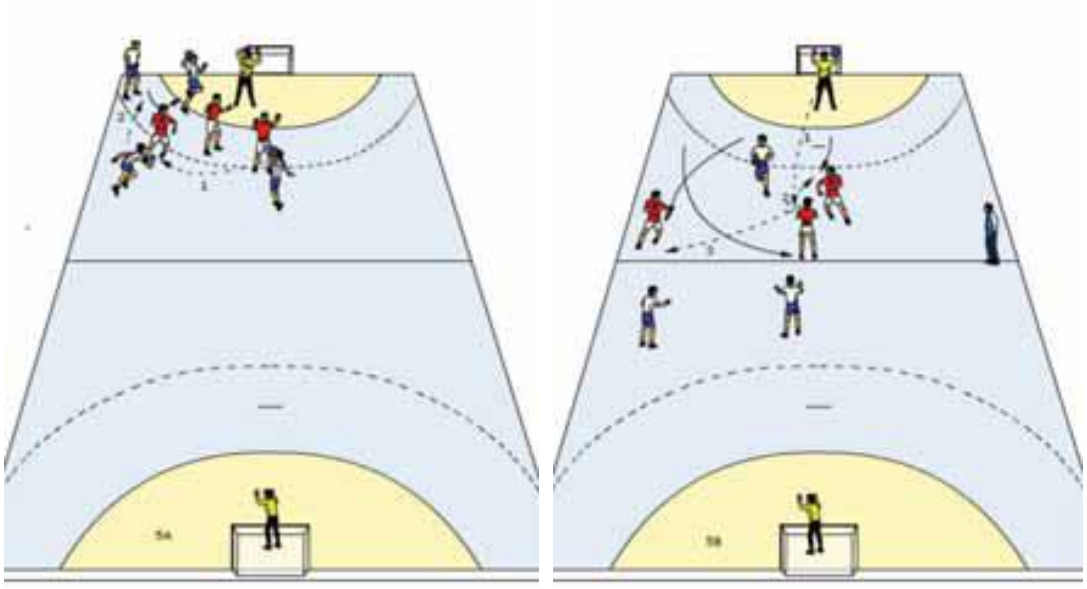


Figure 7: Exercise 5

Exercise 6

Two groups of three players are in attack and defence. The attacking group tries to execute a simple combination between the three backs (a few passes in a piston movement and a shot). Immediately after the shot, they return into defence; one of the players must leave the court at the substitution line and then re-enter the court and return into defence. The opponents must execute a quick throw-off and try to create a good opportunity to score. They must pay attention to the possibilities resulting due to one of the defenders being substituted while they are returning into defence. The attackers can execute various tactical set-plays.

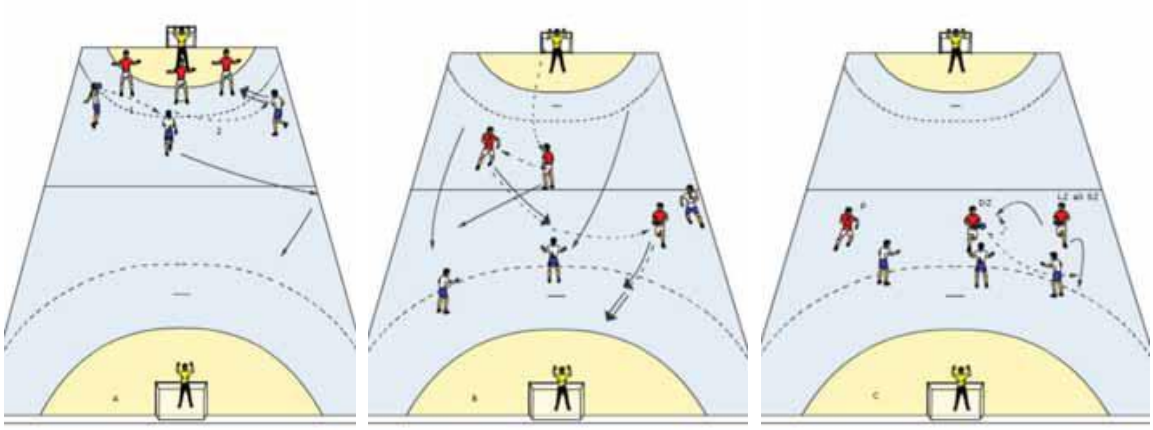


Figure 8: Exercise 6

Exercise 7

This exercise is similar to the previous one, except that the groups now have four players. The defenders are positioned in a formation reminiscent of the 5-1 defence with one defender staying further forward. The attack consists of three backs and a line player. The attackers execute a simple combination and shoot on goal. They immediately return into defence; one of them must leave the court at the substitution line and then re-enter the court and return into defence. The opponents must execute a quick throw-off and try to create a good opportunity to score. They must pay attention to the possibilities emerging due to one of the defenders being substituted while they are returning into defence. The attackers can execute various tactical set-plays.

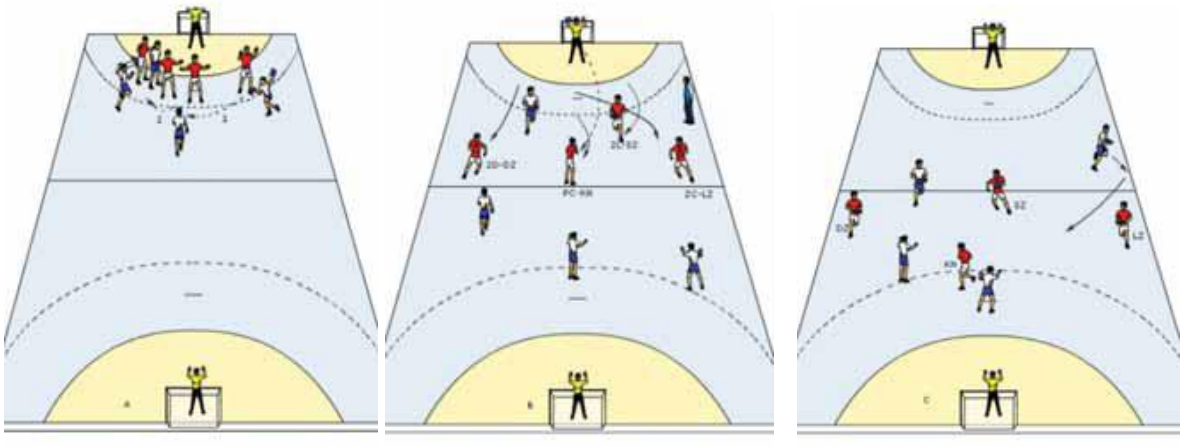


Figure 9: Exercise 7

Exercise 8

This time, the attack and defence consist of full teams (6 players). The defenders are standing in a 5-1 zone formation (see figure). The attackers execute a simple combination suitable for attacking a zone defence (e.g. running into the second line player position) and shoot on goal. After the shot, they return into defence and simulate a substitution (similar to the previous two exercises). The opposing team executes a quick throw-off and, just as in the previous two exercises, tries to gain a tactical advantage over the defenders returning into defence. The circumstances offer a lot of opportunities for creative solutions, because the full number of players is now taking part in the attack.

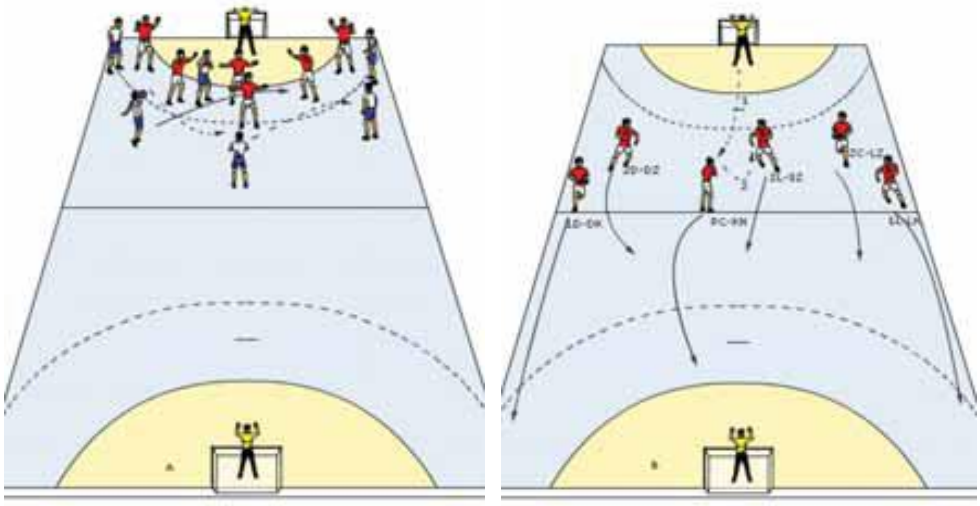


Figure 10: Exercise 8

Exercise 9

Two players are standing on the edge of the court. One of them passes the ball to the coach at the centre of the court, starts sprinting and jumps over a hurdle on the way. The coach passes the ball back. Meanwhile, another player on the opposite side of the court also starts sprinting and jumps over a hurdle on the way - this player must time his run to his counterpart. They execute a crossing at the centre of the court. After crossing, the player with the ball fakes a jump shot, dribbles the ball and moves towards the teammate. After the feint, he passes the ball to the other player who moved into the back position after the cross. This player receives the ball in full flight and shoots from the goal area line. After the shot, they must execute a quick throw-off and use a few passes to arrive in a shooting position. As an alternative, the players can form the defence after the shot and play two-on-two against the next pair.

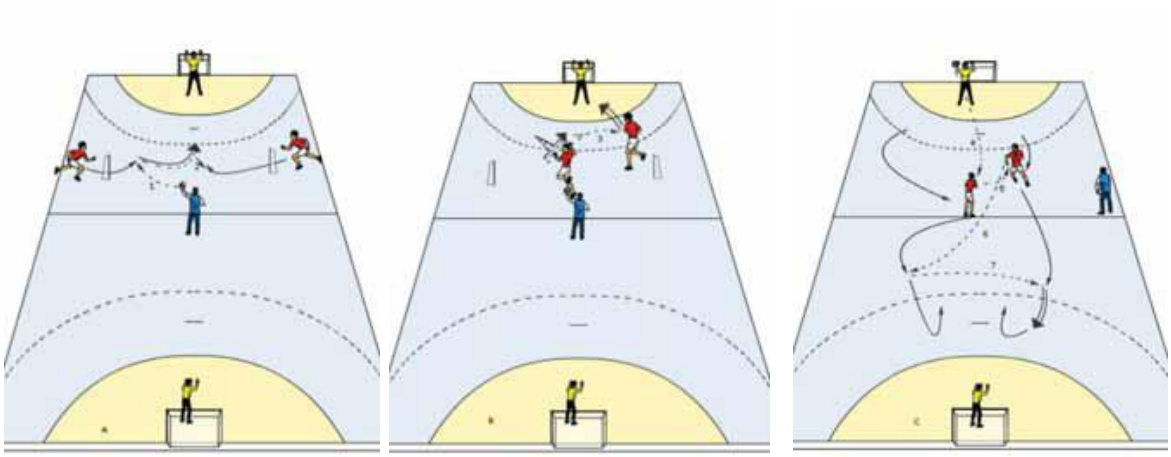


Figure 11: Exercise 9

All exercises described must include a consistent and tactically correct quick throw-off execution during training sessions and friendly and competitive matches. The coach is responsible for deciding when the skill level of the players is high enough to include quick throw-offs into the team's playing model in important and mentally difficult matches. The coach's judgment is crucial for the team's success.

4 RESULTS AND DISCUSSION

The discussion includes a few exercises for quick throw-off execution that I use as a coach to prepare my players for subsequent quick throw-offs involving the entire team. The exercises have so far been proven successful.

Exercise 1

The players are already warmed up. The first exercise consists of pairs of players; one of the players is on the goal area line while the other shoots on goal from the 9-meter line. The goalkeepers do not have any balls prepared, so they must collect it and pass it to the centre (regardless if the shot was successful or not) where one of the players is waiting to execute the throw-off. The defender must reach the player at the centre as quickly as possible, receive the ball in full flight and score a goal. The player who initially shot on goal, tries to prevent this from happening.

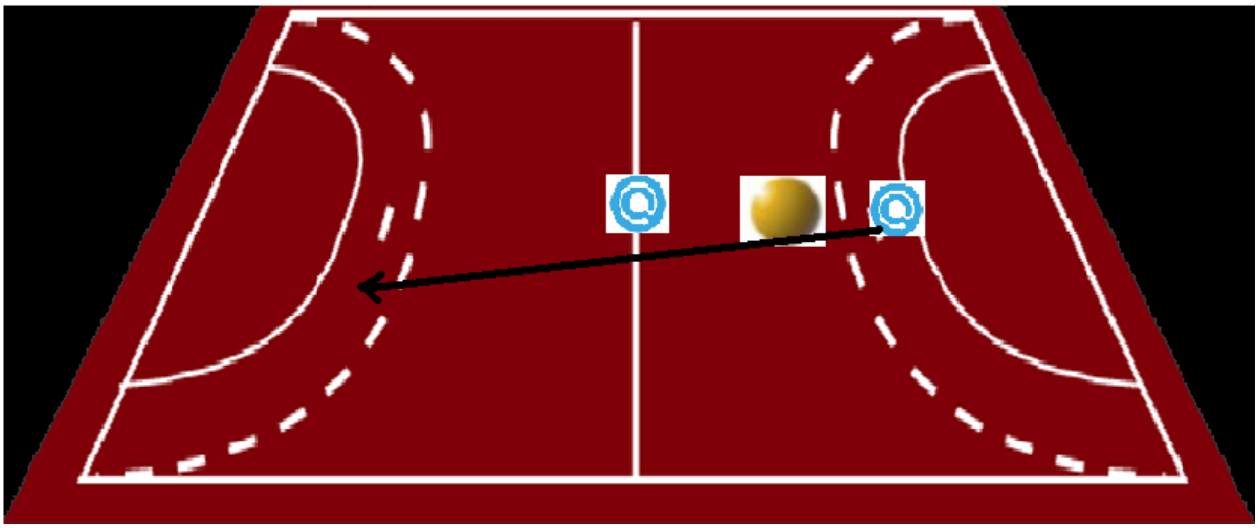
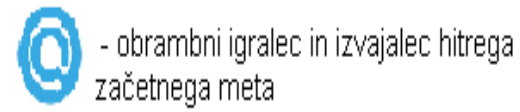


Figure 12: Exercise 1

Key:



Defender and the player who is executing the throw off

Attacker

Exercise 2

The second exercise is executed in pairs. The court is limited and the players are playing on a smaller area. The attackers try to score and the defenders try to prevent them from scoring. The goalkeeper has some balls prepared in the vicinity. After every shot, the goalkeeper passes a ball to one of the defenders who is running towards the centre to execute the throw-off. The second defender comes sprinting along in full flight and they together try to score while the attackers try to prevent them from scoring.

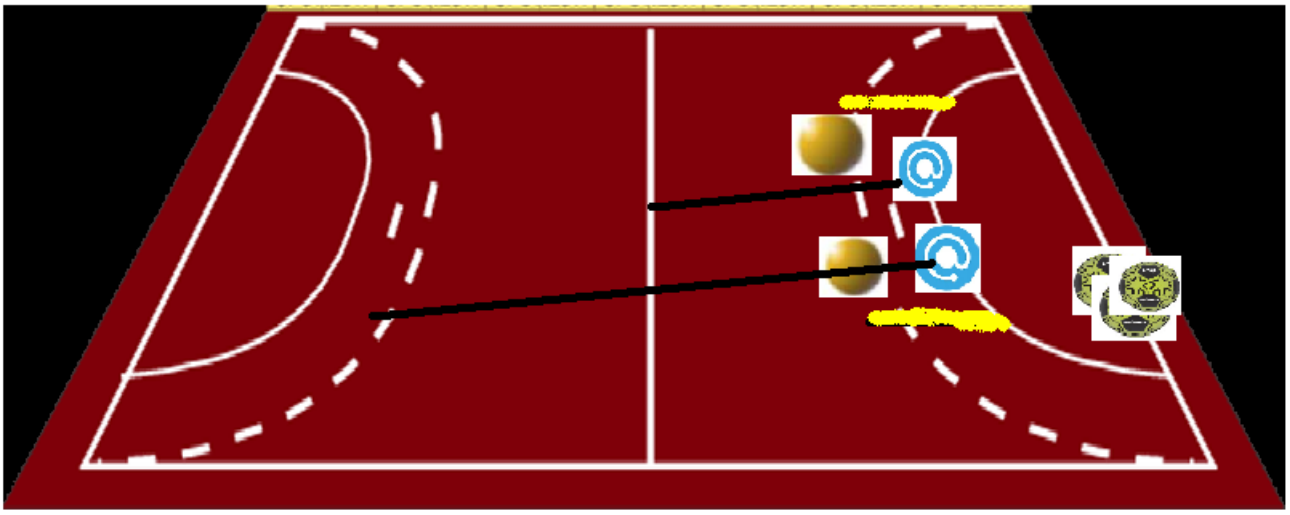
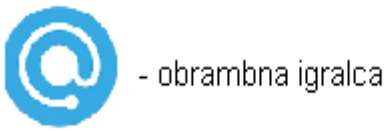


Figure 13: Exercise 2



Key:

Defenders

Attackers

Spare balls

Exercise 3

The third exercise is also executed in a limited area. The players are playing three-on-three. At the opposite end of the court, two defenders are waiting to stop the fast break of the three players in defence. The attackers try to score and the defenders try to prevent them from scoring. The goalkeeper has no balls prepared, so must collect the ball as soon as possible after a shot and pass it to the centre where a player is waiting to execute a throw-off. The player executing a throw-off can only pass the ball to the left or right back. The centre back always positions himself behind the player who does not receive the ball. The receiving player passes the ball to the opposite back. This one attacks a defender, passes the ball back and runs around him for a cross. At this moment, the centre back runs past in full flight, gets the ball and shoots.

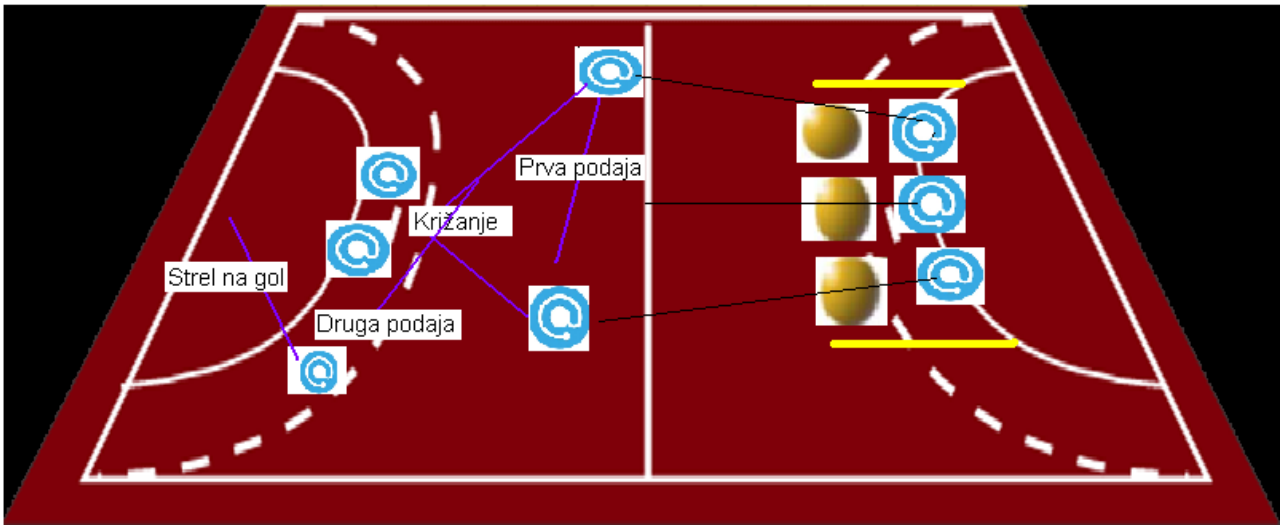


Figure 14: Exercise 3

Key:

- Obrambni igralci, ki kasneje izvedejo tudi hitri začetni met

Defenders who will later execute the throw off

- Napadalci

Attackers

Exercise 4

Six players are in attack and another six are in defence. The goalkeeper has some balls prepared in the vicinity. After a shot, the goalkeeper passes the ball to the centre where a player is waiting (the left wing playing as the second defender on the left). At the referee's whistle for the throw-off, the centre back, who plays as the first defender on the left, is running in full flight against the player executing the throw-off. After receiving the ball in the attacking half, the centre back tries to finish alone if no teammate running in full flight towards the goal is available in a good position. The exercise has many solutions; in case the left back or left wing shoot on goal, it is recommended that the first or second defender on the right execute the throw-off. In case the shot on goal comes from the right, it is recommended that the left side of the defence execute the throw-off.

Example 1:

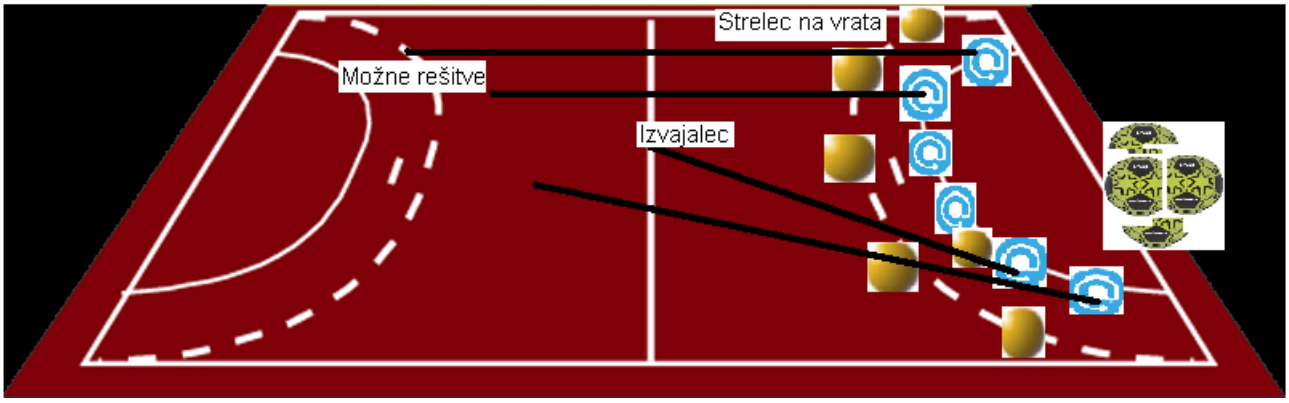
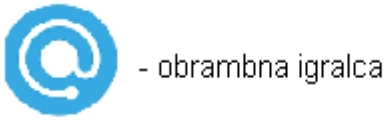


Figure 15: The first example of exercise 4



Key:

Defenders

Attackers

Spare balls

Example 2:

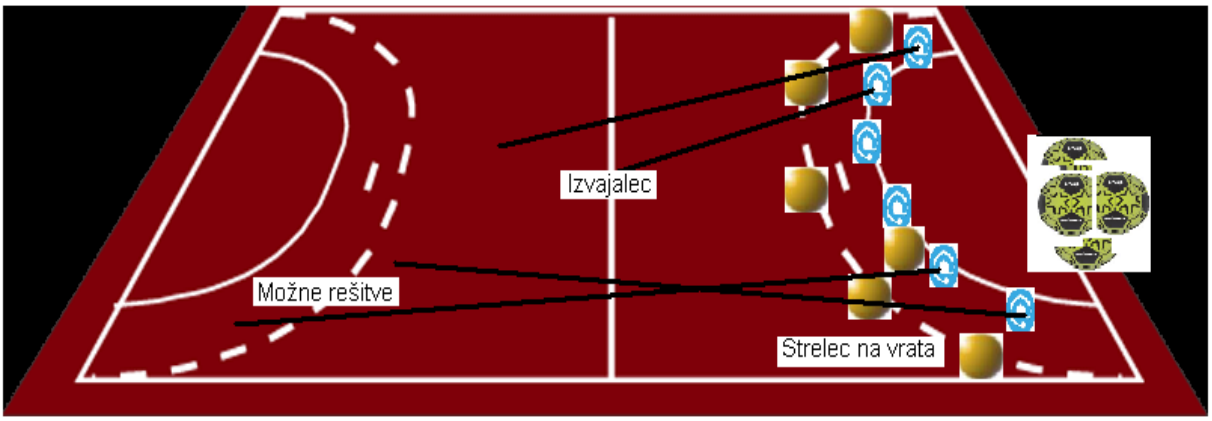


Figure 16: The second example of exercise 4

Key:

 - obrambna igralca Defenders

 - napadalca Attackers

 - rezervne žoge Spare balls

Exercise 5

Six players are in attack and another six are in defence; the defenders are playing 5-1. After a shot, the goalkeeper quickly passes the ball to the centre where the player playing as the frontal defender in a 5-1 system always waits. The player who executes the throw-off decides to pass the ball to one of the players running past. Then they take off in full flight and finish by scoring.

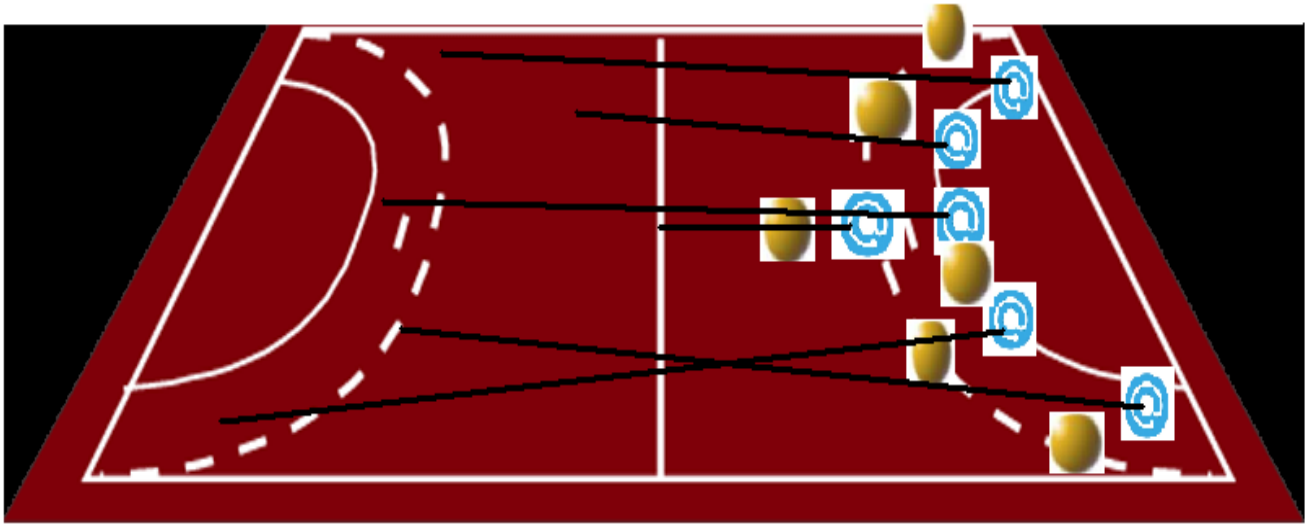


Figure 17: Exercise 5

Key:

- Obrambni igralci, ki kasneje izvedejo tudi hitri začetni met

Defenders who will later execute the throw off

- Napadalci

Attackers

5 CONCLUSION

Handball is a sport where only a high-quality work leads to success. High-quality coaching starts with the initial selection, i.e. selecting the best players for individual positions, and continues with the work in the latter stages of training. In fast breaks, every player has a role to play and a task to perform according to their playing positions. The defenders playing closer to the centre of the court have a greater chance of scoring a goal than players playing closer to their goal area. These players must therefore be fast, have good motor skills, be agile and have a high shot conversion rate. The objective of fast breaks is to prepare a goal scoring opportunity from a good position that is difficult to prepare against a full defence. These opportunities must also be created in extended fast breaks or after quick throw-offs. A fast break is primarily used, because defences are getting better and it is difficult to prepare a good goal scoring opportunity. Fast breaks are very popular with the crowds (especially if they are concluded with an attractive pass above the goal area) and mentally devastating for the opposition. The majority of fights between the opponents are the result of a goal conceded on a fast break. On the other hand, the confidence of the scoring team increases. Naturally, to be able to successfully launch fast breaks, physical condition is extremely important, so that the team can take advantage of it as the end approaches. Fast breaks also allow us to compensate for a lack of tall players, because most goal scoring opportunities are from the goal area line. The speed of the game that is one of the essential characteristics of modern handball (fast break, extended fast break, quick throw-off) requires high endurance from the players. The game is spread over the entire playing surface as evidenced by constant fast breaks, quick throw-offs and immediate transition into defence after losing the ball.

In the discussion section, I have described the exercises that I want my players to perform during training sessions and matches. As a coach, I dedicate a lot of time to training defence, quick throw-offs and fast breaks. To be able to successfully execute quick throw-offs, a lot of time and hard work is needed. In my current club, quick throw-offs are trained at least twice per week for the last two years and it still happens that only one or two (sometimes even none) are successfully executed during a match. I believe quick throw-offs increase handball's appeal to the spectators and lead to more "easy" goals. By executing quick throw-offs, teams are able to come from behind faster or increase their lead even further.

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HANDBALL FEDERATION OF SLOVENIA

Coach federation of Slovenia

Qualification for title: Master Coach

STATISTICS COMPARISON ABOUT SLOVENIAN NATIONAL MEN HANDBALL TEAM PLAY BETWEEN THE YEARS 2002 AND 2012

(Seminar)

Mentor:

Dr. Marko Šibila

Author:

Tomaž Ocvirk

Ljubljana, 13.06.2013

Summary

The basic purpose of our seminar is the comparison of the statistical data of Slovenian's men handball team at the European Championships in the years 2002 – 2012.

The analysis of the data, published by the European Handball Federation were the basis for our seminar – we've gathered statistics of each respective match. In our analysis we have 51 attributes. By analyzing game in offence and defence we've tried to make conclusions, if there are differences between championships in respective playing parameters. For computer analysis we've used software package SPSS.

By our analysis we've come to the conclusions that respective European Championships don't differ in majority of the parameters which means, there is still room for improving the handball game.

Key words: handball, game analysis, European championship, men handball team of Slovenia.

INTRODUCTION

Statistical data about different game parameters are very important for every coach – he / she can anaylse that data and find weekneses and strong points in team's play and respective players. Of course, the coach must follow these data in a longer time period to find them useful and later – based on that data – to make changes in the team's play on the court.

Particulary useful are statistical data from the biggest competitions – comparison with each coach's own team there is the easiest. This data serves as some kind of model. Most useful and appropriate are quantitative analyses (analysis of numeric data) of matches played at the biggest competitions. Most important is, that we compare data from the same championship (EC, WC or OC) because quality differs on those championships. Looking at average team quality the most homogenious championship is the European championship. Organizers of great championships have the obligation to organize statistical data collection.

Gathered data can be found on web pages as well as on the compact discs. European Handball Federation gathers data on European handball championships with the help of Swiss Timing company, with whom they have a special contract. What is important is the unique way of gathering data, which means that analysis through some longer period of time can be made with no problem, because the same data was collected every time. The purpose of this seminar is to gather and analyse differences in those gaming parameters, which were collected during European Championships. We've chosen to analyse six consecutive championships: year 2002 on Sweden, year 2004 in Slovenia, year 2006 in Switzerland, year 2008 in Norway, year 2010 in Austria and year 2012 in Serbia. With those data we want to show how the handball game is developing through years.

Problem of our investigation

We were investigating Slovenian national team's play in European Championships held in years 2002, 2004, 2006, 2008, 2010 and 2012. With statistical comparison of some game attributes we wanted to investigate in detail the Slovenian national team game for to come to some conclusions based on those analysises. Attributes included in statistics are around all elements of our game in offence in defence.

Slovenian national team play at the European Championships held between years 2002 and 2012

Playing description of Slovenian national team between the years 2002 - 2012

Before the ECh held in 2012 in Serbia there were nine more European Championships, The Slovenian men national team was involved on the eight of them (they were missing only on the ECh 1998 in Italy). Slovenian handball players had achieved their best score at ECh 2004 on home soil, with the silver medal, their worst ECh was in Sweden with 12th place. On ECh so far Slovenia had played 51 times: 17 wins, 28 loses and 6 draws.

EC held in 2002

At the ECh 2002 Slovenia played sevem matches. Their score was: two draws (with Switzerland and Jugoslavia) and lost five times (with Island, Spain, Germany, France and Ukraine). At the end, Slovenia was on the 12th place.

Group C (Skövde)
Slovenia : Switzerland 34:34 (18:16)
Slovenia : Iceland 25: 31 (11:15)
Slovenia : Spain 20:25 (9:15)

Main round– group II (Västeras)
Slovenia : Jugoslavia 24:24 (11:14)
Slovenia : Germany 28:31 (12:12)
Slovenia : France 21:36 (10:19)

Match for 11th place:
Slovenia : Ukraine 29:34 (14:20)

Slovenia scored 12th place.

Country where the competition took place: Sweden.

Date: 25.1. – 3.2. 2002

National teams: Croatia, Czech republic, Danmark, Spain, France, Germany, Iceland, Israel, Polland, Portugal, Russia, Slovenia, Switzerland, Sweden, Ukraine, Jugoslavia – total 16 national teams.

No.	Name	MP	Total			All Goals / Shots						
			Goals	Shots	%	7mP	7m%	6mC	Wing	BT	9m	FB
1	PUSNIK,ROLANDO	4										
4	VUGRINEC,RENATO	7	35	79	44	/1	0	/1	2/2	5/8	25/64	3/3
5	KOZOMARA,GORAN	4	3	4	75							¾
6	KASTELIC,ANDREJ	7	15	27	56	2/5	40	1/1	6/13		1/2	5/6
7	BRUMEN,MATJAZ	5	5	9	56	2/3	67		1/3		2/3	
8	BEDEKOVIC,BRANKO	3	6	9	67			/1		2/2	2/4	2/2
10	SOVIC,SEBASTJAN	6	1	2	50				1/2			
11	PUNGARTNIK,ROMAN	7	25	48	52	/1	0	1/1	7/20	1/1	3/11	13/14
12	PODPECAN,DUSAN	3										
13	TOMSIC,TOMAZ	7	19	27	70	/1	0	13/16			0/3	6/7
15	PAJOVIC,ALES	7	32	81	40	5/6	83	2/3	/2	/4	24/65	1/1
16	LAPAJNE,BENO	7		1	0						0/1	
17	PRAZNIK,ROK	6	2	7	29			/1			2/6	
18	ZORMAN,UROS	5	12	16	75			4/4		5/6	1/4	1/1
19	LUBEJ,ZORAN	5	23	31	74	5/8	63	13/16	1/1	2/2		2/4
20	FICKO,BOSTIAN	6	3	6	50					1/1	2/5	
Skupaj			181	347	52	14/25	56	34/44	18/43	16/24	62/168	36/42

No.	Name	MP	Punishments					Offence			Defence			
			YC	RC	2M	2+2	EX	AS	R7	TF	ST	BS	P7	TP
1	PUSNIK,ROLANDO	4						2		1				01:36:10
4	VUGRINEC,RENATO	7	1					24	4	19	7		3	05:27:37
5	KOZOMARA,GORAN	4			1						1	1		00:45:59
6	KASTELIC,ANDREJ	7	2		2			7	1	4	12	1	2	06:00:05
7	BRUMEN,MATJAZ	5						1			1		1	01:00:11
8	BEDEKOVIC,BRANKO	3		1	2			2		4	2			00:50:25
10	SOVIC,SEBASTJAN	6	1		1			1	1	1			2	01:04:33
11	PUNGARTNIK,ROMAN	7	3	1	3			7	1	15	4		4	06:32:49
12	PODPECAN,DUSAN	3						1						01:00:11
13	TOMSIC,TOMAZ	7	1		2			8	8	10	6	2	5	04:00:27
15	PAJOVIC,ALES	7	2		1			19		14	4	5	1	06:05:27
16	LAPAJNE,BENO	7	1								2			04:23:39
17	PRAZNIK,ROK	6	1		1			5	1	8	1		2	01:52:41
18	ZORMAN,UROS	5		1	4			3	2	11	1		3	03:47:59
19	LUBEJ,ZORAN	5	5		2			3	5	1	3	1	1	02:58:04
20	FICKO,BOSTIAN	6	1		3			10	2	7	1		3	01:33:43
Skupaj			18	3	22			93	25	95	45	10	27	07:00:00

Table 1 and 2: Total statistical data gathered about all Slovenian players who played at the ECh 2002.

	Goalkeepers	MP	Total			All Saves / Shots									
			Saves	Shots	%	7mP	7m%	6mC	Wing	BT	NS	NS%	9m	9m%	FB
1	Pusnik,Rolando	4	22	66	33	/4	0	2/14	6/11	1/2	9/27	33	11/19	58	2/16
12	Podpecan,Dusan	3	18	50	36	1/5	20	2/8	5/6	1/8	8/22	36	7/15	47	2/8
16	Lapajne,Beno	7	53	192	28	6/17	35	6/25	8/25	5/27	19/78	24	18/55	33	10/42
Skupaj			93	308	30	7/26	27	10/47	19/42	7/37	36/127	28	36/89	40	14/66

Table 3: Total statistical data of goalkeepers game on EC 2002.

Team	All		Player Majority		Player Minority		Position Attacks		FB		Ind. FB		Team FB		TO	TO %
	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%		
SLO	181/399	45	31/63	49	13/31	42	145/345	42	36/54	67	15/15	100	21/39	54	95	24

Table 4: Total statistical data of Slovenian team offence at the ECh 2002.

6m: 6 Metre Shots	**AS**: Assists
9m: 9 metre shots	**NS:** Near zone shots (incl.: 6m, 6m0, Wing, BT)
FB: Fastbreak	**YC:** Yellow Card
7mS: 7m shots	**2M**: 2 Minute Suspensions
TF: Technical Foul	**2+2**: 2 + 2 Minutes Suspension
R7: Received 7m-Fouls	**RC:** Red Card
F7: 7m Penalty Shots	**EX:** Exclusions
ST: Steals	**BS:** Blocked Shots
MP: Matches Played	**BT:** Breakthroughs
TP: Time Played	**DB:** Defence Blocks
S/S: Saves / Shots	**%:** Efficiency
Wing: Wing Shots	

ECh held in 2004

At the ECh 2004 the Slovenian team played eight matches. They finished with one draw (with Hunganry), five wins (Iceland, Czech republic, Serbia and Montenegro, France and Croatia) and two loses (both times with Germany). At the end they won the second place.

Group C (Celje)

Slovenia : Iceland 34:28 (13:13)
Slovenia : Czech republic 37:33 (15:18)
Slovenia : Hungary 29:29 (13:14)

Main round - Group II (Ljubljana)

Slovenia : Serbia and Montenegro 27:20 (14:11)
Slovenia : Germany 24:31 (10:18)
Slovenia : France 27:22 (12:9)

Semifinal (Ljubljana)

Slovenia : Croatia 27:25 (15:13)

Final (Ljubljana)

Slovenia : Germany 25:30 (10:16)

No.	Name	MP	Total			All Goals / Shots						
			Goals	Shots	%	7mP	7m%	6mC	Wing	BT	9m	FB
1	PODPECAN Dusan	6										
3	BACKOVIC Ognjen	7	17	31	55			1/1	2/3	7/7	7/19	/1
4	VUGRINEC Renato	8	38	77	49	4/6	67	2/2	1/3	13/20	12/39	6/7
5	JOVICIC Zoran	6	25	32	78	6/6	100	6/9	10/14	1/1		2/2
6	KASTELIC Andrej	8	6	16	38	1/2	50	/1	2/7	2/2	0/3	1/1
7	KAVTICNIK Vid	8	40	65	62	1/3	33		14/22	4/4	12/27	9/9
8	BEDEKOVIC Branko	8		2	0						0/2	
11	PUNGARTNIK Roman	4	10	21	48				5/12	2/2	0/4	3/3
12	SKOF Gorazd	5										
13	TOMSIC Tomaz	8	11	17	65			9/13	/1		1/1	½
14	SIMONOVIC Ivan	5	9	17	53	3/5	60			2/3	4/9	
15	PAJOVIC Ales	8	21	49	43					2/2	17/44	2/3
16	LAPAJNE Beno	5										
17	FICKO Bostjan	6	6	10	60			2/3		2/2	2/5	
18	ZORMAN Uros	8	22	29	76			5/6	1/2	13/14	0/4	3/3
19	LUBEJ Zoran	8	25	32	78	4/5	80	17/21	/1			4/5
Skupaj			230	398	58	19/27	70	42/56	35/65	48/57	55/157	31/36

No.	Name	MP	Punishments					Offence			Defence			
			YC	RC	2M	2+2	EX	AS	R7	TF	ST	BS	P7	TP
1	PODPECAN Dusan	6			1									02:42:46
3	BACKOVIC Ognjen	7	2	1	6			1		4	1	2	5	02:43:49
4	VUGRINEC Renato	8	2		2			53	7	19	5	2	2	05:50:04
5	JOVICIC Zoran	6	1		3			4	1	4	2			03:30:09
6	KASTELIC Andrej	8	2		5			2	2	1	3		1	04:09:57
7	KAVTICNIK Vid	8	2		4			7	3	7	3	1	3	05:57:16
8	BEDEKOVIC Branko	8	3	1	11			2	1		3	3	11	03:00:14
11	PUNGARTNIK Roman	4	2		5					3	2		2	02:13:20
12	SKOF Gorazd	5								1				01:38:33
13	TOMSIC Tomaz	8	2		5			4		2	6	12	3	02:54:14
14	SIMONOVIC Ivan	5	1					3		6			1	01:11:52
15	PAJOVIC Ales	8	4	1	9			10		9	6	8	7	05:32:04
16	LAPAJNE Beno	5						3						03:40:41
17	FICKO Bostjan	6	1		1			2		8	2		1	02:36:35
18	ZORMAN Uros	8	1		3			20	5	16	8	1	5	04:25:13
19	LUBEJ Zoran	8	1		3			5	7	11	3	4	1	03:53:13
Skupaj			24	3	58			117	26	91	44	33	42	08:00:00

Table 5 and 6: Total statistical data gathered about all Slovenian players who played at the ECh 2004.

	Goalkeepers	MP	Total			All Saves / Shots									
			Saves	Shots	%	7mP	7m%	6mC	Wing	BT	NS	NS%	9m	9m%	FB
1	Podpecan	6	30	111	27	4/18	22	3/16	5/21	1/9	9/46	20	14/37	38	3/10
12	Skof	5	11	59	19	1/9	11	1/14	1/6	1/8	3/28	11	7/17	41	0/5
16	Lapajne	5	56	145	39	3/12	25	5/19	11/26	3/17	19/62	31	30/56	54	4/15
Skupaj			97	315	31	8/39	21	9/49	17/53	5/34	31/136	23	51/110	46	7/30

Table 7: Total statistical data of goalkeepers game on EC 2004.

Team	All		Player Majority		Player Minority		Position Attacks		FB		Ind. FB		Team FB		TO	TO %
	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%		
SLO	230/445	52	31/58	53	30/79	38	199/401	50	31/44	70	3/4	75	28/40	70	94	21

Table 8: Total statistical data of Slovenian tema offence at the ECh 2004.

6m: 6 Metre Shots	**AS**: Assists
9m: 9 metre shots	**NS:** Near zone shots (incl.: 6m, 6m0, Wing, BT)
FB: Fastbreak	**YC:** Yellow Card
7mS: 7m shots	**2M**: 2 Minute Suspensions
TF: Technical Foul	**2+2**: 2 + 2 Minutes Suspension
R7: Received 7m-Fouls	**RC:** Red Card
F7: 7m Penalty Shots	**EX:** Exclusions
ST: Steals	**BS:** Blocked Shots
MP: Matches Played	**BT:** Breakthroughs
TP: Time Played	**DB:** Defence Blocks
S/S: Saves / Shots	**%:** Efficiency
Wing: Wing Shots	

Photo 1: Final ceremony at the ECh 2004.

ECh held in 2006

At the ECh 2006 Slovenia played six times. The won twice (with Switzerland and Ukraine), lost four times (with Poland, France, Germany and Spain). They were placed 8th.

Group A (St. Gallen):

Slovenia : Switzerland 29:25 (16:13)
Slovenia : Ukraine 33:31 (16:17)
Slovenia : Poland 29:32 (10:16)

Main round - Group I (Basel):

Slovenia : France 30:34 (11:20)
Slovenia : Germany 33:36 (16:20)
Slovenia : Spain 33:39 (16:19)

No.	Name	MP	Total			All Goals / Shots						
			7mP	7m%	6mC	Wing	BT	9m	FB	Goals	Shots	%
1	PODPECAN Dusan	1										
2	KOZLINA Miladin	6	10	16	63					1/1	1/2	8/13
3	BACKOVIC Ognjen	2										
4	VUGRINEC Renato	5	15	38	39	0/1	0	2/3		2/2	2/2	9/30
5	JOVICIC Zoran	6	21	28	75	10/13	77	1/1	5/9		5/5	
7	KAVTICNIK Vid	6	23	34	68	0/1	0	4/4	13/16		5/10	1/3
8	OSTIR Marko	6	5	6	83			5/5				0/1
9	NATEK Jure	5	15	25	60				1/1	2/2	1/1	11/21
10	GAJIC Dragan	6	3	6	50				1/2		2/4	
12	SKOF Gorazd	6										
14	RUTENKA Siarhei	6	51	81	63	15/20	75	3/6	2/4	7/8	3/3	21/40
15	PAJOVIC Ales	6	7	24	29					1/1	2/2	4/21
16	LAPAJNE Beno	5										
18	ZORMAN Uros	6	20	23	87			4/5	2/2	7/7	2/2	5/7
19	LUBEJ Zoran	6	9	12	75			8/11			1/1	
20	ZVIZEJ Luka	6	12	16	75			0/1	3/5		9/9	0/1
Skupaj			191	309	62	25/35	71	27/36	27/39	20/21	33/41	59/137

No.	Name	MP	Punishments					Offence			Defence			
			YC	RC	2M	2+2	EX	AS	R7	TF	ST	BS	P7	TP
1	PODPECAN Dusan	1												8:02
2	KOZLINA Miladin	6	1	1	4			1		2	3	6	1	2:11:25
3	BACKOVIC Ognjen	2	1		3					1	1		2	30:32
4	VUGRINEC Renato	5	1		2			11		6 (4)	1	2		2:38:34
5	JOVICIC Zoran	6	3		1			4	2	4 (3)	1			3:47:36
7	KAVTICNIK Vid	6	2		1			11	3	3	5		2	4:58:26
8	OSTIR Marko	6	3		7			4	3	1 (3)		8	1	3:07:35
9	NATEK Jure	5	1		2			9	3	3 (3)	1	1	3	2:19:54
10	GAJIC Dragan	6								1				1:19:38
12	SKOF Gorazd	6						3		1				3:52:56
14	RUTENKA Siarhei	6		1	4			17	6	17 (7)	1	1	4	3:44:18
15	PAJOVIC Ales	6	2		1			5		3	1	1		2:33:42
16	LAPAJNE Beno	5						1						1:59:02
18	ZORMAN Uros	6	2		1			19	11	11 (8)	1	2	1	4:16:13
19	LUBEJ Zoran	6			3			7	6	1 (2)	1	2	3	2:16:05
20	ZVIZEJ Luka	6	1		3			3	1				1	2:16:02
Skupaj			17	2	32			95	35	54 (30)	16	23	18	6:00:00

Table 9 and 10: Total statistical data gathered about all Slovenian players who played at the ECh 2006.

	Goalkeepers	MP	Total			All Saves / Shots									
			Saves	Shots	%	7mP	7m%	6mC	Win	BT	NS	NS%	9m	9m%	FB
1	PODPECAN Dusan	6	0	7	0	0/1	0	0/3		0/1	0/1	0/1	0	0/4	0
12	SKOF Gorazd	6	55	178	31	2/6	33	3/30	12/2	2/10	5/33	31/73	42	17/66	26
16	LAPAJNE Beno	6	36	100	36	3/9	33	6/15	7/12	2/14	1/15	17/35	49	15/41	37
Skupaj			91	285	32	5/16	31	9/48	19/3	4/25	6/49	48/109	44	32/111	29

Table 11: Total statistical data of goalkeepers game at the ECh 2006.

Team	All		Player Majority		Player Minority		Position Attacks		FB		Ind. FB		Team FB		TO	TO %
	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%		
SLO	191/365	52	48/71	68	16/45	36	158/318	50	33/47	70	13/15	87	20/32	63	84	23

Table 12: Total statistical data of Slovenian team offence at the ECh 2006.

6m: 6 Metre Shots	**AS**: Assists
9m: 9 metre shots	**NS:** Near zone shots (incl.: 6m, 6m0, Wing, BT)
FB: Fastbreak	**YC:** Yellow Card
7mS: 7m shots	**2M**: 2 Minute Suspensions
TF: Technical Foul	**2+2**: 2 + 2 Minutes Suspension
R7: Received 7m-Fouls	**RC:** Red Card
F7: 7m Penalty Shots	**EX:** Exclusions
ST: Steals	**BS:** Blocked Shots
MP: Matches Played	**BT:** Breakthroughs
TP: Time Played	**DB:** Defence Blocks
S/S: Saves / Shots	**%:** Efficiency
Wing: Wing Shots	

ECh held in 2008

At the ECh 2008 Slovenia played six matches. They won three times (with Czech republic, Montenegro and Norway) and three times they lost (with Poland, Croatia and Danmark). They were placed 10th.

Preliminaries (Stavanger)

Slovenia : Czech republic 34:32 (16:14)
Slovenia : Polland 27:33 (14:23)
Slovenia : Croatia 24:29 (15:16)

Group I (Stavanger)

Slovenia : Montenegro 31:29 (16:13)
Slovenia : Norway 33:29 (14:13)
Slovenia : Danmark 23:28 (11:15)

No.	Name	MP	Total			All Goals / Shots						
			7mP	7m%	6mC	Wing	BT	9m	FB	Goals	Shots	%
2	KOZLINA Miladin	4	4	11	36						0/2	4/9
3	KOZOMARA Goran	6	11	16	69			10/14			1/2	
5	DOBELSEK Jure	4	6	12	50	1/1	100		4/7		1/3	0/1
6	BACKOVIC Ognjen	2	1	2	50						1/1	0/1
7	KAVTICNIK Vid	6	25	40	63	11/14	79		7/10		3/6	4/10
8	MLAKAR Matjaz	6	9	11	82			8/10				1/1
9	NATEK Jure	6	27	43	63			3/3	1/1	3/3	1/2	19/34
11	PUNGARTNIK Roman	4	7	13	54			1/1	2/5	1/1	3/3	0/3
12	SKOF Gorazd	6										
13	SPILER David	6	9	23	39	3/5	60	1/2		1/1		4/15
14	PRAZNIK Rok	6	2	5	40	1/1	100				1/2	0/2
15	PAJOVIC Ales	6	39	70	56	10/12	83	2/2		1/1	2/3	24/52
16	LAPAJNE Beno	6										
17	GAJIC Dragan	4	2	4	50				1/3		1/1	
20	ZVIZEJ Luka	6	15	26	58	1/2	50	3/5	5/11		6/7	0/1
23	ZORMAN Uros	6	15	28	54			2/4		8/11	1/2	4/11
Skupaj			172	304	57	27/35	77	30/41	20/37	14/17	21/34	60/140

No.	Name	MP	Punishments					Offence			Defence			
			YC	RC	2M	2+2	EX	AS	R7	TF	ST	BS	P7	TP
2	KOZLINA Miladin	4	1		1			4		/ 1	3	4	1	1:44:27
3	KOZOMARA Goran	6			4			5	6	1 / 2	2	1	4	2:37:50
5	DOBELSEK Jure	4			1				1	/ 1	1		1	1:16:25
6	BACKOVIC Ognjen	2	1		2			1			1		1	32:56
7	KAVTICNIK Vid	6			1			2	2	4 / 1	2		2	4:19:18
8	MLAKAR Matjaz	6	3		4			3	3	3 / 3	2	1	4	2:55:31
9	NATEK Jure	6	5		5			20	10	4 / 1	2	2	8	4:32:51
11	PUNGARTNIK Roman	4								5 / 1			1	1:26:18
12	SKOF Gorazd	6								1				2:38:29
13	SPILER David	6						4	4	2 / 1			1	1:06:50
14	PRAZNIK Rok	6	3		6			5		/ 1	2	4	4	2:25:56
15	PAJOVIC Ales	6	1	1	3			17	2	10 / 4	3	9	2	4:27:47
16	LAPAJNE Beno	6			1			2						3:23:31
17	GAJIC Dragan	4						1		2 / 2				1:00:23
20	ZVIZEJ Luka	6	1					5	2	6 / 1	3		1	4:29:21
23	ZORMAN Uros	6	1		2			17	4	8 / 6	1			3:02:07
Ekipa			2							1				
Skupaj			18	1	30			86	34	46 / 26	22	21	30	6:00:00

Table 13, 14: Total statistical data gathered about all Slovenian players who played at the ECh 2008.

	Goalkeepers	MP	Total			All Saves / Shots									
			Saves	Shots	%	7mP	7m%	6mC	Wing	BT	NS	NS%	9m	9m%	FB
12	SKOF Gorazd	6	45	132	34	4/16	25	4/15	6/21	1/6	3/18	27/56	48	11/42	26
16	LAPAJNE Beno	6	55	148	37	4/14	29	9/21	6/13	0/6	3/20	33/74	45	15/40	38
Skupaj			100	280	36	8/30	27	13/36	12/34	1/12	6/38	60/130	46	26/82	32

Table 15: Total statistical data of goalkeepers game at the ECh 2008.

Team	All		Player Majority		Player Minority		Position Attacks		FB		Ind. FB		Team FB		TO	TO %
	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%		
SLO	172/355	48	33/56	59	14/41	34	151/304	50	21/51	41	5/5	100	16/46	35	72	20

Table 16: Total statistical data of Slovenian team offence at the ECh 2008.

6m: 6 Metre Shots	**AS**: Assists
9m: 9 metre shots	**NS:** Near zone shots (incl.: 6m, 6m0, Wing, BT)
FB: Fastbreak	**YC:** Yellow Card
7mS: 7m shots	**2M**: 2 Minute Suspensions
TF: Technical Foul	**2+2**: 2 + 2 Minutes Suspension
R7: Received 7m-Fouls	**RC:** Red Card
F7: 7m Penalty Shots	**EX:** Exclusions
ST: Steals	**BS:** Blocked Shots
MP: Matches Played	**BT:** Breakthroughs
TP: Time Played	**DB:** Defence Blocks
S/S: Saves / Shots	**%:** Efficiency
Wing: Wing Shots	

EC held in 2010

At the EURO 2010 Slovenia played six matches. They had two draws (with Germany and Polland), won twice (with Sweden and Spain) and lost twice (with Czech and France). They were placed 11th.

Preliminaries - (Innsbruck)

Slovenia : Sweden 27:25 (7:13)
Slovenia : Germany 34:34 (16:11)
Slovenia : Poland 30:30 (13:12)

Main round – (Innsbruck)

Slovenia : Czech republic 35:37 (12:21)
Slovenia : France 28:37 (18:17)
Slovenia : Spain 32:30 (14:20)

No.	Name	MP	Total			All Goals / Shots						
			7mP	7m%	6mC	Wing	BT	9m	FB	Goals	Shots	%
2	KOZLINA Miladin	6	1	2	50			1/1				0/1
4	VUGRINEC Renato	6	23	37	62					4/4	4/4	15/29
5	DOBELSEK Jure	6	0	2	0				0/1			0/1
6	LUBEJ Zoran	6										
7	KAVTICNIK Vid	6	33	49	67	21/24	88	1/1	6/11	1/1	2/6	2/6
9	NATEK Jure	6	3	11	27					1/1	0/1	2/9
11	SKUBE Sebastian	6	7	14	50			1/1		4/6	1/1	1/6
12	SKOF Gorazd	6										
13	SPILER David	6	20	33	61				1/1	5/7	3/3	11/22
14	BRUMEN Matjaz	6	2	3	67	1/2	50				1/1	
15	PAJOVIC Ales	6	16	33	48			2/2	1/1	0/1	2/4	11/25
16	REZAR Aljosa	6										
17	GAJIC Dragan	6	4	7	57				3/5		1/2	
19	ZVIZEJ Miha	6	25	38	66			19/25	1/1		5/12	
20	ZVIZEJ Luka	6	41	64	64	8/13	62	3/8	16/24		12/16	2/3
24	ZORMAN Uros	6	11	17	65			1/2		3/4	5/6	2/5
Skupaj			186	310	60	30/39	77	28/40	28/44	18/24	36/56	46/107

No.	Name	MP	Punishments					Offence			Defence			
			YC	RC	2M	2+2	EX	AS	R7	TF	ST	BS	P7	TP
2	KOZLINA Miladin	6	5		4			2	1	1 / 1	2	7	6	2:06:49
4	VUGRINEC Renato	6	5		2			13		15 / 7	2	1	1	4:32:51
5	DOBELSEK Jure	6	2							/ 1			1	37:33
6	LUBEJ Zoran	6			1									11:32
7	KAVTICNIK Vid	6			3			7	4	2 / 2			3	4:11:04
9	NATEK Jure	6			1			4	1	1 / 2				1:05:53
11	SKUBE Sebastian	6						2	2	7 / 2			2	1:03:54
12	SKOF Gorazd	6						1		2				4:30:55
13	SPILER David	6	2		3			5	6	7	1	6	3	2:18:17
14	BRUMEN Matjaz	6											1	42:37
15	PAJOVIC Ales	6	3		5			12	4	6 / 2	2	14	3	3:56:35
16	REZAR Aljosa	6								/ 1				1:29:05
17	GAJIC Dragan	6								1 / 1			1	1:21:09
19	ZVIZEJ Miha	6			3			10	11	4 / 7	3	4		3:37:49
20	ZVIZEJ Luka	6			3			3	3	2 / 5	2		1	5:10:06
24	ZORMAN Uros	6	1		2			17	7	15 / 4	2	1		5:03:51
Skupaj			18	0	27	0	0	76	39	63 / 35	14	33	22	6:00:00

Table 17, 18: Total statistical data gathered about all Slovenian players who played at the EURO 2010.

	Goalkeepers	MP	Total			All Saves / Shots									
			Saves	Shots	%	7mP	7m%	6mC	Wing	BT	NS	NS%	9m	9m%	FB
12	SKOF Gorazd	6	73	222	33	6/18	33	7/38	12/35	4/20	7/26	37/85	44	23/93	25
16	REZAR Aljosa	6	25	77	32	1/3	33	3/12	5/13	1/9	3/17	12/23	52	9/34	26
Skupaj			98	301	33	7/22	32	10/50	17/48	5/29	10/43	49/109	45	32/127	25

Table 19: Total statistical data of goalkeepers game at the EURO 2010.

Team	All		Player Majority		Player Minority		Position Attacks		FB		Ind. FB		Team FB		TO	TO %
	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%		
SLO	186/381	49	28/41	68	15/39	38	150/323	46	36/58	62	7/8	88	29/50	58	98	26

Table 20: Total statistical data of Slovenian team offence at the EURO 2010.

6m: 6 Metre Shots	**AS**: Assists
9m: 9 metre shots	**NS:** Near zone shots (incl.: 6m, 6m0, Wing, BT)
FB: Fastbreak	**YC:** Yellow Card
7mS: 7m shots	**2M**: 2 Minute Suspensions
TF: Technical Foul	**2+2**: 2 + 2 Minutes Suspension
R7: Received 7m-Fouls	**RC:** Red Card
F7: 7m Penalty Shots	**EX:** Exclusions
ST: Steals	**BS:** Blocked Shots
MP: Matches Played	**BT:** Breakthroughs
TP: Time Played	**DB:** Defence Blocks
S/S: Saves / Shots	**%:** Efficiency
Wing: Wing Shots	

ECh held in 2012

Slovenia played seven matches. They won twice (with Iceland and Hungary) and lost five times (with Norway, Croatia, France, Spain and Macedonia). Slovenia was placed at the 6th place.

Preliminaries - (Vrsac)

Slovenia : Norway: 27 : 28 (14 : 14)

Slovenia : Croatia: 29 : 31 (12 : 16)

Slovenia : Iceland: 34 : 32 (17 : 13)

Main round – (Belgrade)

Slovenia : France: 26 : 28 (15 : 14)

Slovenia : Hungary: 32 : 30 (14 : 13)

Slovenia : Spain: 32 : 35 (15 : 15)

Final 5-6

Slovenija : Makedonija: 27 : 28 (12 : 16)

Slovenia ended the championship at the 6th place.

No.	Name	MP	Total			All Goals / Shots						
			7mP	7m%	6mC	Wing	BT	9m	FB	Goals	Shots	%
4	MlKLAVCIC David	7	9	10	90			2/2		4/4		¾
5	DOBELSEK Jure	7	8	10	80			0/1	4/5	1/1	2/2	1/1
6	PUCELJ Peter	7	5	6	83			4/4			1/2	
7	BRUMEN Matjaz	7	5	7	71	1/2	50		4/4			0/1
8	BEZJAK Marko	7	3	6	50			1/1	1/2	1/1		0/2
10	DOLENEC Jure	7	30	47	64	4/5	80	4/4	2/4	10/11	1/3	9/20
11	SKUBE Sebastian	7	18	32	56	0/1	0	3/4	1/3	6/7		8/17
12	SKOF Gorazd	7										
13	SPILER David	7	14	30	47	1/2	50	1/3	1/2	8/10		3/13
16	PROST Primoz	7										
19	ZVIZEJ Miha	7	15	21	71			12/17	0/1		3/3	
20	ZVIZEJ Luka	7	30	41	73	2/3	67	5/6	13/22		10/10	
22	GABER Matej	7										
23	ZORMAN Uros	7	19	30	63			1/2	1/2	15/15	0/3	2/8
25	MACKOVSEK Borut	7	3	5	60				1/1	1/1		1/3
30	GAJIC Dragan	7	48	67	72	19/28	68	2/2	12/19	1/1	14/16	0/1
Ekipa												
Skupaj			207	312	66	27/41	66	35/46	40/65	47/51	31/39	27/70

No.	Name	MP	Punishments				Offence			Defence			
			YC	RC	2M	2+2	EX	AS	R7	TF	ST	BS	P7
4	MIKLAVCIC David	7			3		3	1	4 / 5		2	1	2:21:13
5	DOBELSEK Jure	7			2				1 / 1	1		1	1:53:47
6	PUCELJ Peter	7	1		6				/ 1	2	3	1	2:11:45
7	BRUMEN Matjaz	7	1				1		/ 1				1:29:14
8	BEZJAK Marko	7					6	1	5 / 4	1			54:10
10	DOLENEC Jure	7	5		7		18	3	10 / 4	3	1	3	4:54:42
11	SKUBE Sebastian	7			1		15	16	8 / 3				2:33:39
12	SKOF Gorazd	7			1		1		1				4:46:28
13	SPILER David	7	1		2		4	2	9 / 6				2:04:42
16	PROST Primoz	7											2:16:57
19	ZVIZEJ Miha	7	3	1	9		4	3	3 / 4	2	1	7	4:30:50
20	ZVIZEJ Luka	7	2	1	2		6	1	2 / 1	3	2	2	5:12:12
22	GABER Matej	7	4		6		1			1	5	5	2:52:10
23	ZORMAN Uros	7	3		2		40	13	11 / 8	1		2	5:10:20
25	MACKOVSEK Borut	7					1	1	2		1		19:58
30	GAJIC Dragan	7					3		2 / 6	4		2	5:27:54
Ekipa			3						1				
Skupaj			23	2	41	0	103	41	58 / 45	18	15	24	7:00:00

Table 21, 22: Total statistical data gathered about all Slovenian players who played at the EURO 2012.

	Goalkeepers	MP	Total			All Saves / Shots									
			Saves	Shots	%	7mP	7m%	6mC	Wing	BT	NS	NS%	9m	9m%	FB
12	SKOF Gorazd	7	67	211	32	3/15	20	4/28	21/51	2/13	5/27	32/77	42	27/92	29
16	PROST Primoz	7	32	100	32	0/8	0	2/12	11/32	0/6	1/13	18/29	62	13/50	26
Skupaj			99	311	32	3/23	13	6/40	32/83	2/19	6/40	50/106	47	40/142	28

Table 23: Total statistical data of goalkeepers game at the EURO 2012.

Team	All		Player Majority		Player Minority		Position Attacks		FB		Ind. FB		Team FB		TO	TO %
	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%	G/Att.	%		
SLO	207/398	52	28/41	68	28/67	42	176/350	50	31/48	65	5/6	83	26/42	62	103	26

Table 24: Total statistical data of Slovenian team offence at the EURO 2012.

6m: 6 Metre Shots	**AS**: Assists
9m: 9 metre shots	**NS:** Near zone shots (incl.: 6m, 6m0, Wing, BT)
FB: Fastbreak	**YC:** Yellow Card
7mS: 7m shots	**2M**: 2 Minute Suspensions
TF: Technical Foul	**2+2**: 2 + 2 Minutes Suspension
R7: Received 7m-Fouls	**RC:** Red Card
F7: 7m Penalty Shots	**EX:** Exclusions
ST: Steals	**BS:** Blocked Shots
MP: Matches Played	**BT:** Breakthroughs
TP: Time Played	**DB:** Defence Blocks
S/S: Saves / Shots	**%:** Efficiency
Wing: Wing Shots	

Goals:
We have set the next goals:

- Gather main informations about Slovenian national men team at the European Championships between 2002 – 2012.
- Find out what is the success rate in offence part of the handball game – in fastbreaks and offence on set-defence.
- Find out the success ratio of the most frequently used technical – tactical activities in offence.
- Success ratio of goalkeepers savings.
- Based on statistical analysis of main attributes find out main game characteristics of the Slovenian national handball team at ECh between 2002 – 2012.

Methods
In the methods we are showing how we were gathering data, which attributes were used in methods for analysing the data.

Players in statistical analysis
We took all the players which played on at least one Ech between 2002 – 2012.

Attributes
We've taken 51 attributes. With chosen attributes, we've taken all players activities in offence and defence. The attributes used were:

Attributes in offence

1. Offence number
2. Goals number
3. Player majority
4. Goals with player majority
5. Attack no. With player minority
6. Goals player minority
7. Attacks by positions
8. Goals from positions
9. Fastbreaks
10. Goals fastbreaks
11. Individual fastbreaks
12. Goals individual fastbreaks
13. Team fastbreaks
14. Goals team fastbreaks
15. Seven meters penalty
16. Goals from seved meters penalty
17. Shots from 6 meters center
18. Goals 6 meters center
19. Goals wing
20. Goals wing

21. Shots 9 meters
22. Goals 9 meters
23. Shots 7 meters
24. Goals 7 meters
25. Shots fastbreak
26. Goals fastbreak
27. Shots breakthrough
28. Goals breakthrough
29. All Shots
30. All goals
31. Asistences
32. Technical fauls

Attributes in the defence:

33. Steals
34. Blocked shots
35. Yellow cards
36. Two minutes punishment
37. Red cards

Attributes goalkeepers:

38. Shots center 6 meters
39. Saved shots center 6 meters
40. Shots wing
41. Shots saved wing
42. Shots nine meters
43. Saved shots 9 meters
44. Seven meters penalty
45. Saved seven meters penalties
46. Shots from fastbreaks
47. Saved shots from fastbreaks
48. Shots from breakthrough
49. Saved shots from breakthrough
50. All shots
51. Saved shots

Data gathering

We have analysed 40 matches (EC 2002 – 7 matches, EC 2004 – 8 matches, EC 2006 – 6 matches, EC 2008 – 6 matches, EC 2008 – 6 matches, EC 2010 – 6 matches, EC 2010 – 6 matches, EC 2012 – 7 matches). The Data was gathered with official data gathering on the matches with the software package »EHF/Swiss Timing Handball EURO Scouting Manual software package«. We've taken only the most interesting data.

Results

The table below is showing the basic statistical characteristics in the game, gathered with the official statistic of the European Championships. The table is showing all the games at the European Championships between 2002 and 2012, minimum and maximum values, mean values of attributes and standard deviation. We've checked normality distribution with the Kolmogorov – Smirnov test and found out, that the attributes were not normally distributed. With the Brown-Forsythe test we've got the differences between the championships. With post hoc test we've got detailed differences amongst respective championships.

Statistics

						Kolmogorov-Smirnov[a]		
	N	*Minimum*	*Maximum*	*Mean*	*Std. dev.*	Statistic	df	Sig.
AS	*40*	*9*	*25*	*14,25*	*3,726*	,140	40	,045
ST	*40*	*0*	*11*	*3,98*	*2,636*	,128	40	,096
BS	*40*	*0*	*12*	*3,38*	*2,446*	,108	40	,200*
YC	*40*	*1*	*4*	*2,95*	*0,597*	,125	40	,114
RC	*40*	*0*	*2*	*0,27*	*0,506*	,112	40	,200*
Attacks	*40*	*47*	*69*	*58,58*	*4,898*	,212	40	,000
Goals	*40*	*20*	*37*	*29,18*	*4,126*	,115	40	,195
Att. Player maj.	*40*	*0*	*21*	*8,25*	*4,442*	,101	40	,200*
Shots play. Maj.	*40*	*0*	*14*	*4,98*	*3,051*	,128	40	,098
Att. Play. Min.	*40*	*1*	*16*	*7,55*	*3,515*	,195	40	,001
Shots play. Min.	*40*	*0*	*8*	*2,9*	*1,851*	,457	40	,000*
Offence posit.	*40*	*43*	*62*	*51,03*	*4,481*	,235	40	,000
Goals posi.	*40*	*11*	*33*	*24,47*	*4,739*	,118	40	,169
Fastbreaks	*40*	*0*	*13*	*7,55*	*3,202*	,151	40	,022
Goals FB	*40*	*0*	*9*	*4,7*	*2,301*	,234	40	,000
Ind. FB	*40*	*0*	*2*	*0,27*	*0,506*	,203	40	,000
Shots ind. FB	*40*	*0*	*5*	*1,2*	*1,324*	,134	40	,068
Team FB.	*40*	*0*	*12*	*6,23*	*3,076*	,151	40	,022
Shots team FB.	*40*	*0*	*7*	*3,5*	*2*	,195	40	,001
Shots 6mC.	*40*	*2*	*11*	*4,85*	*2,486*	,125	40	,117
Shots wing	*40*	*1*	*11*	*4,3*	*2,244*	,127	40	,102
Shots 9m	*40*	*2*	*16*	*7,5*	*3,367*	,128	40	,096
Shots 7m	*40*	*0*	*11*	*3,55*	*2,16*	,105	40	,200*
Shots FB	*40*	*0*	*9*	*4,7*	*2,301*	,125	40	,114
Shots BT	*40*	*0*	*9*	*4,08*	*2,401*	,162	40	,010
All shots	*40*	*41*	*61*	*51,65*	*5,27*	,209	40	,000
Goals	*40*	*20*	*37*	*29,18*	*4,126*	,154	40	,017
Technical faults	*40*	*3*	*24*	*13*	*5,139*	,179	40	,002
2M	*40*	*1*	*11*	*5,25*	*2,362*	,150	40	,024
GK shots 6mC	*40*	*1*	*14*	*6,75*	*3,128*	,182	40	,002
GK saved 6mC.	*40*	*0*	*4*	*1,43*	*1,035*	,130	40	,084
GK shots wing	*40*	*1*	*16*	*7,45*	*3,029*	,282	40	,000
GK saved wing	*40*	*0*	*7*	*2,9*	*1,676*	,159	40	,012

GK shots 9m	*40*	*8*	*28*	*16,33*	*5,146*	,253	40	,000
GK saved 9m	*40*	*2*	*16*	*7,35*	*3,332*	,140	40	,045
GK sh. 7m	*40*	*0*	*9*	*3,9*	*1,919*	,128	40	,096
GK saved 7m	*40*	*0*	*4*	*0,95*	*1,085*	,108	40	,200*
GK shots FB	*40*	*2*	*17*	*6,65*	*3,438*	,125	40	,114
GK saved FB	*40*	*0*	*4*	*1,22*	*1,143*	,112	40	,200*

a. Lilliefors Significance Correction

Table 25: Basic statistical characteristics calculated with the software package SPSS

Shortcuts used in the table:

N – total number of played games; **Minimum –** minimum value of parameter by match; **Maximum –** maximum value of parameter by match; **Mean –** mean value of the parameter for all played games; **Std. Dev. –** standard deviation; **Variance –** variance (square of standard deviation); **AS –** Asistences; **Attacks. –** total number of all attacks; **Goals –** total number of goals; **Att. Player majority –** total number of attack player majority; **Shots player maj. –** total number of goals player majority; **Att. Player min. –** total number of attacks with player minority; **Shots player minority –** total number of shots player minority; **Offence posit. –** total number positioned offence; **Goals posit. –** total number of goals from positioned attacks; **Fastbreaks –** total number of fastbreaks; **Goals FB –** total number of goals from fastbreaks; **Ind. FB –** total number of individual fastbreaks; **Shots ind. FB –** total number of shots from individual fastbreaks; **Team FB –** total number of team fastbreaks; **Shots team FB –** total number of shots from team fastbreaks; **Shots 6mC –** total number of shots from 6 meters center; **Shots wing –** total number of shots from wing; **Shots 9m –** total number of shots from nine meters; **Shots 7m –** total number of shots from penalties 7m; **Shots FB –** total number of shots from fastbreaks; **Shots BT –** total number of shots from breakthroughs; **All shots –** total number of shots; **Goals –** total number of goals; **Technical faults –** total number of technical faults; **2M –** total number of 2 minutes penalties; **GK shots 6mC –** total number of shots for goalkeeper from 6 meters center; **GK saved 6mC –** total number of goalkeepers saved shots from 6 meters center; **GK shots wing –** goalkeeper shots from wing; **GK saved wing –** goalkeeper total number of saved shots from wing; **GK shots 9m –** goalkeeper total number of shots from nine meters; **GK saved 9m –** goalkeeper total number os saved shots from 9m; **GK sh. 7m –** goalkeeper total number of shots from penalty 7m; **GK saved 7m –** goalkeeper total number of saved shots from 7m penalty; **GK shots FB –** goalkeeper total number of shots fastbreaks; **GK saved FB –** goalkeeper saved fastbreaks shots;

Robust Tests of Equality of Means[b,c]					
		Statistic[a]	df1	df2	Sig.
ST	Brown-Forsythe	4,471	5	20,092	,007
rumenikart	Brown-Forsythe	.	.	.	.
št. napad. skup.	Brown-Forsythe	.	.	.	.
rdečikart	Brown-Forsythe	.	.	.	.
zadet9m	Brown-Forsythe	3,846	5	26,009	,010
štzadetindPN	Brown-Forsythe	2,622	5	23,580	,050
2min	Brown-Forsythe	3,334	5	32,090	,015
vratstrekrilo	Brown-Forsythe	7,043	5	26,931	,000
vratbranjkrilo	Brown-Forsythe	2,574	5	32,199	,046
vratstre9m	Brown-Forsythe	3,651	5	28,970	,011
vratstrePN	Brown-Forsythe	2,870	5	19,933	,041
štnapigrmanj	Brown-Forsythe	3,155	5	29,155	,021
zadetprodor	Brown-Forsythe	8,924	5	23,547	,000
vratstrelskupaj	Brown-Forsythe	6,655	5	22,298	,001

a. Asymptotically F distributed.

b. Robust tests of equality of means cannot be performed for rumenikart because at least one group has 0 variance.

c. Robust tests of equality of means cannot be performed for rdečikart because at least one group has 0 variance.

b. Robust tests of equality of means cannot be performed for št. napad. skup. because at least one group has 0 variance.

Table 25a: Brown-Forsythe test

Attribut	Attacks total[a]	Shots total[b]	Goals[c]	Shots positioned attack[d]	Goals FB[e]	Technical faults[f]	Assists[g]
EC 2002	57,00	49,57	25,86	20,71	5,14	13,57	13,29
EC 2004	55,63*	49,75	28,75	24,88	3,87	11,75	14,63
EC 2006	60,83	51,50	31,83	26,33	5,50	14,00	15,83
EC 2008	59,17	50,67	28,67	25,17	3,50	7,67*	14,33
EC 2010	63,50*	51,67	31,00	25,00	6,00	16,33*	12,67
EC 2012	56,86	56,8*	29,57	25,14	4,43	14,71	14,71

[a]No statistical significant differences

[b]No statistical significant differences

[c]No statistical significant differences

[d]No statistical significant differences

[e]No statistical significant differences

[f]No statistical significant differences

[g]No statistical significant differences

Table 26: Comparison between mean values of some attributes in offence on six European Championships

Table 26 is showing that on the European Championships there weren't statistically significant differences based on the following attributes: attacks total, shots total, all scores, scores from offense set-play, shots in fastbreaks, technical faults and assistences.

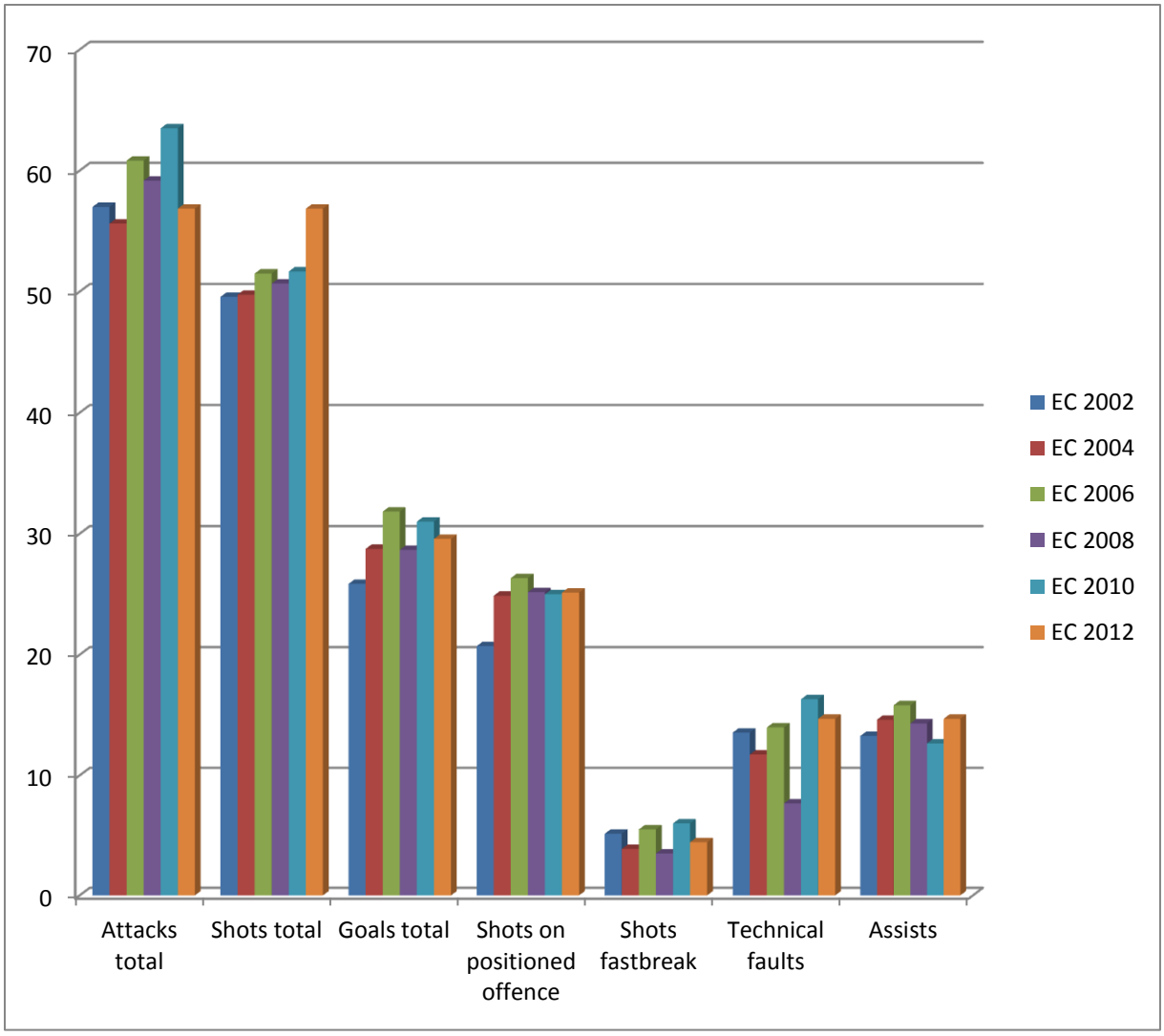

Diagram 1: Comparison between mean values of some attributes in offence in six European Championships: attacks total, shots total, total scores, scores from offense set-play, shots in fastbreak, technical faults, assists.

Attributes	Goals wing[a]	Goals 9m[b]	Goals 6m center[c]	Goals 7m[d]	Goals breakthrough[e]
EC 2002	2,57	8,86	4,86	2,00	2,29*
EC 2004	4,38	6,88	5,25	2,38	6,00*
EC 2006	4,50	9,83*	4,50	4,17	3,33
EC 2008	3,67	8,67*	5,00	4,50	2,33*
EC 2010	4,67	7,67	4,67	5,00	3,00*
EC 2012	6,00	3,71*	4,71	3,86	6,71*

[a]No statistical significant differences

[b]2012 < 2006, 2008

[c]No statistical significant differences

[d]No statistical significant differences

[e]2002, 2008, 2010 < 2004; 2002, 2008, 2010 < 2012

Table 27: Comparison between mean values of some attributes in offence on six European Championships

Table 27 shows no statistical significant differences for goals from wing, shots from six meters and shots from seven meters penalty. But, there were statistical significant differences with shots from nine meters – in the year 2012 players scored less goals than in the years 2002 and 2006. Statistically significant differences were also with goals from breakthroughs: in 2004 players were scoring more than in 2002,2008 and 2010. Same holds good for 2012 – players that year scored more times than in 2002, 2008 and 2010.

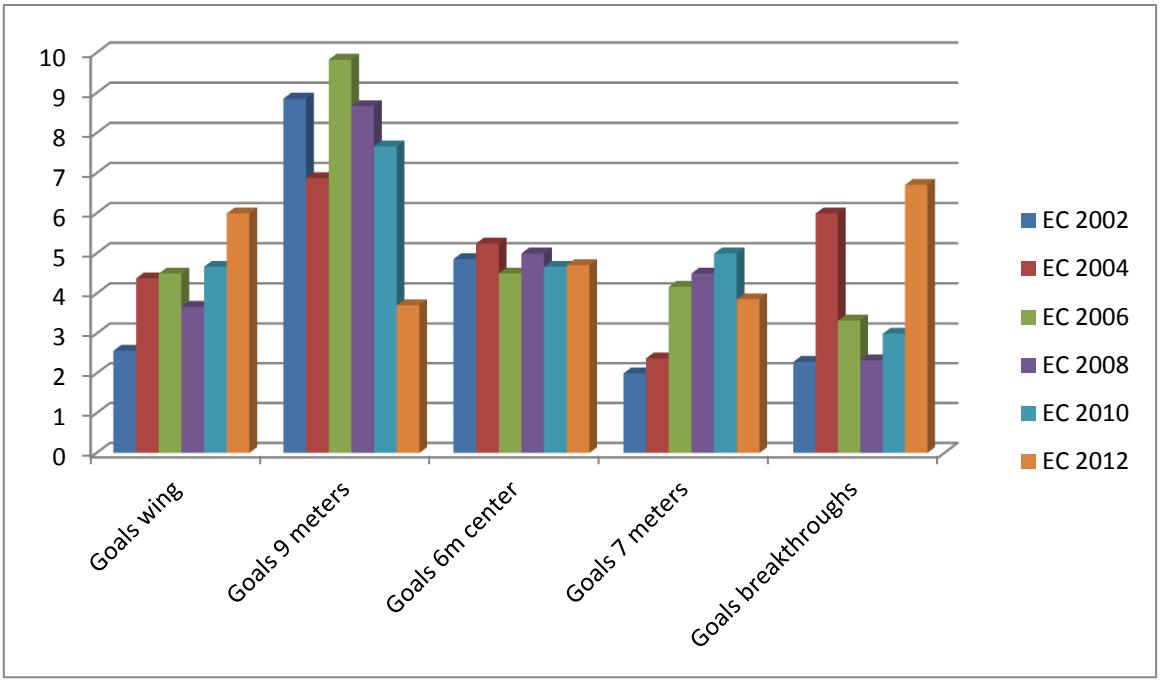

Diagram 2: Comparison between mean values some attributes in offence on six European Championships: goals from wing, goals from nine meters, goals from six meters center, goals from penalties, goals from breakthroughs.

Attributes	Goalkeeper saves 6m center[a]	Goalkeeper saves wing[b]	Goalkeeper save 9m[c]	Goalkeeper saves 7m[d]	Goalkeeper saves FB[e]	Goalkeeper saves total
EC 2002	1,43	2,71	5,14	1,00	2,00	44,00
EC 2004	1,13	2,13	6,38	1,00	0,88	39,38*
EC 2006	1,50	3,17	8,00	0,83	1,00	47,50*
EC 2008	2,17	2,00	10,00	1,33	1,00	46,67*
EC 2010	1,67	2,83	8,17	1,17	1,67	50,17*
EC 2012	0,86	4,57	7,14	0,43	0,86	44,43*

[a]No statistical significant differences
[b]No statistical significant differences
[c]No statistical significant differences
[d]No statistical significant differences
[e]No statistical significant differences
f 2004 < 2006, 2008, 2010, 2012

Table 28: Comparison between mean values goalkeepres mean values

Table 28 is showing us no statistical significant differences for goalkeepers saves from 6m center, goalkeepers saves wing, goalkeepers saves 9m, goalkeepers saves from penalties and for goalkeepers saves from fastbreaks. There are statistical significant differences in total shots: in year 2004 were statistically less than in 2006, 2008, 2010 and 2012.

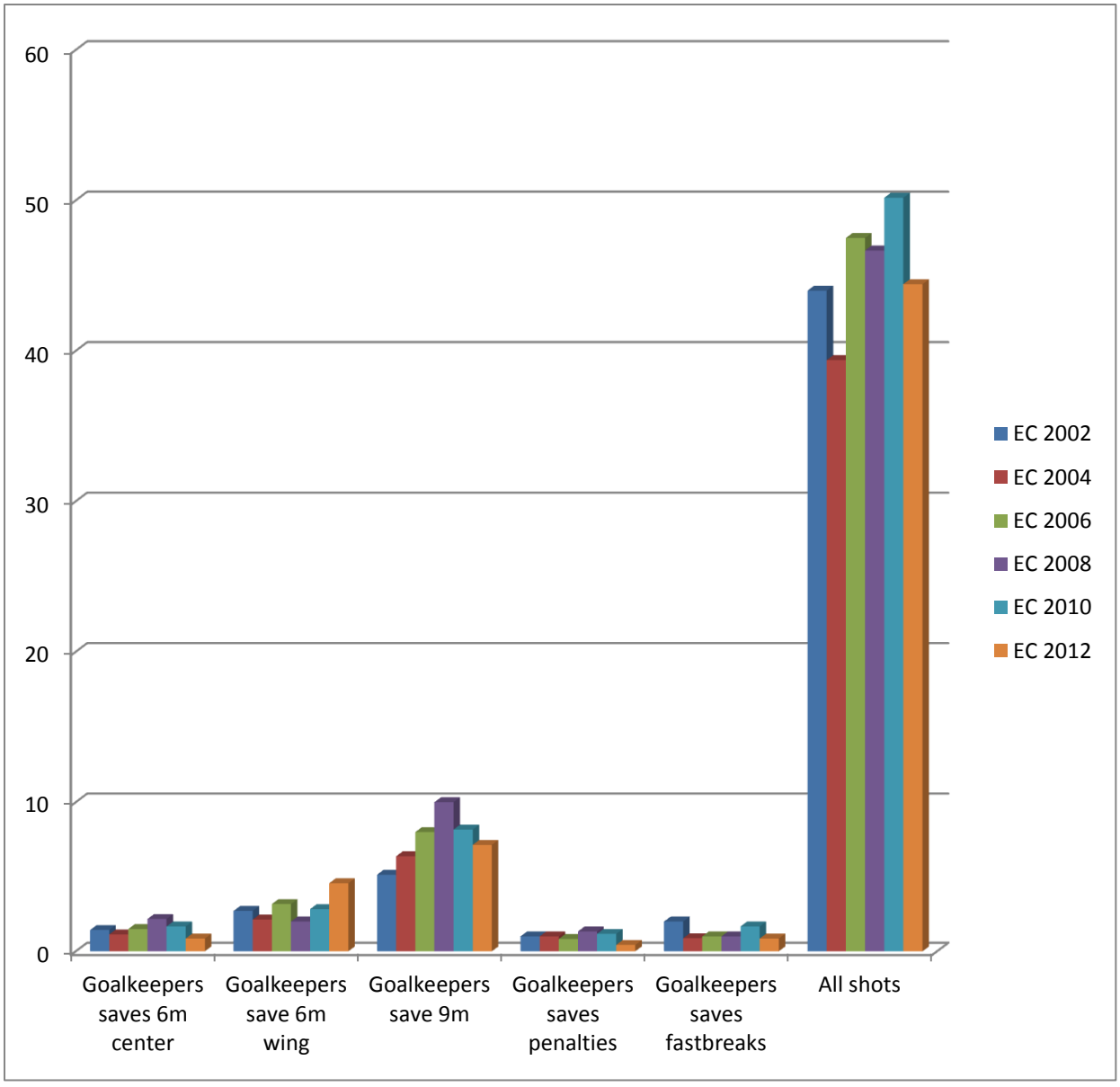

Diagram 3: Comparison between mean values of goalkeepers attributes: goalkeepers saves 6 meters center, goalkeepers saves 6 meters wing, goalkeepers saves 9 meters, goalkeepers saves penalties, goalkeepers saves fastbreaks, all shots.

Attributes	Steals[a]	Blocked shots[b]	Goalkeepers saves[c]	Yellow cards[d]	Two minutes punishment[e]
EC 2002	6,43*	1,43*	13,29	2,57	3,14
EC 2004	5,50	4,13	12,13	3,00	7,25
EC 2006	2,67	3,83	15,17	2,83	5,33
EC 2008	3,67	3,50	16,67	3,00	5,00
EC 2010	2,33*	5,50*	16,33	3,00	4,50
EC 2012	2,57*	2,14	14,14	3,29	5,86

'*' – statistically significant differences for $p < 0.05$;

[a]No statistical significant differences

[b]No statistical significant differences

[c] No statistical significant differences

[d] No statistical significant differences

[e] No statistical significant differences

Table 29: Comparison between mean values of some attributes in defence on six EC.

Table 29 that there was no statistically significant differences for steals, blocked shots, goalkeepers saves, yellow cards in two minutes penalties.

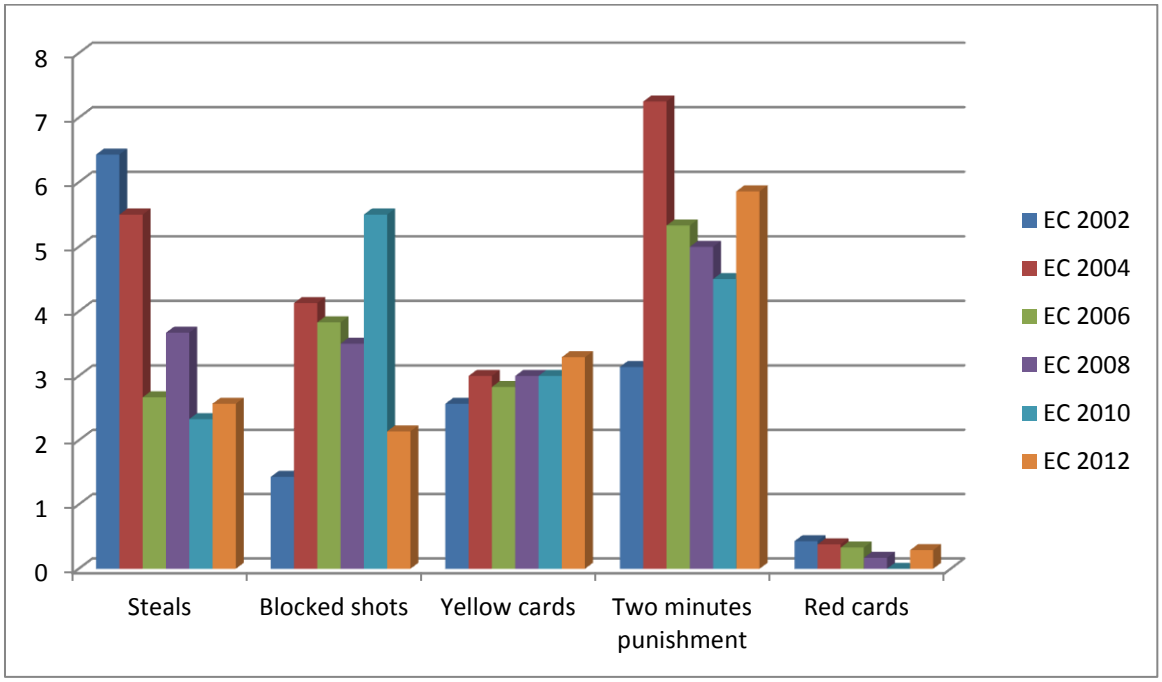

Diagram 4: Comparison between mean values of some defence activities: steals, blocked shots, yellow cards, two minutes punishments, red cards.

Attributes	Attacks player minority[a]	Shots individual FB[b]	Shots wing[c]	Shots 9m[d]	Shots FB[e]
EC 2002	4,43	2,14	6,00*	12,71	9,43
EC 2004	9,88	0,38	6,63*	13,75	3,75
EC 2006	7,50	2,17	6,33*	18,17	8,17
EC 2008	6,83	0,83	5,67*	21,67	6,33
EC 2010	6,50	1,17	8,00	18,17	7,17
EC 2012	9,57	0,71	11,86*	15,14	5,71

[a]No statistical significant differences
[b]No statistical significant differences
[c]2002, 2004, 2006, 2008 < 2012
[d]No statistical significant differences
[e]No statistical significant differences

Table 30: Comparison of mean values of some attributes in offence on EC 2002 – 2012.

Table 30 is showing us statistically significant differences for wing shots: there were more of them in 2012 than in 2002,2004,2006 and 2008. Statistically significant differences were not showing with attacks player minority, goals in the individual fastbreak, shots from nine meters and shots from fastbreaks.

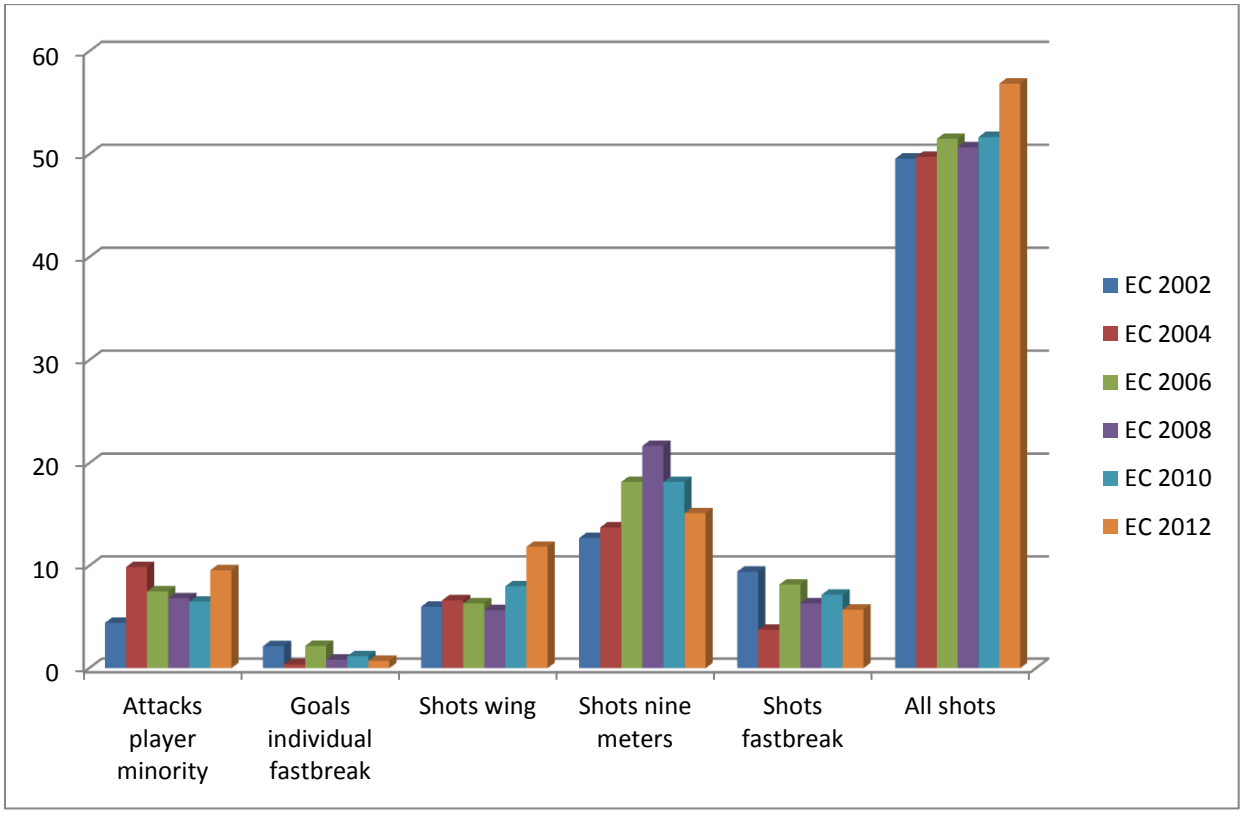

Diagram 5: Comparison between mean values of some attributes in offence: attack player minority, individual fastbreak, wing shots, shots from nine meters, shots fastbreak, all shots.

CONCLUSION

There is very little statistically significant difference between European Championships, that is why I will now introduce some differences which are not statistically significant, but they do exist:

OFFENCE, SHOTS AND GOALS ANALYSIS:

- Total offence number was the highest in 2006 (60,83) and in 2010 (63,50), the lowest offence number was in 2004 (55,63) and 2012(56,86). With the exception of the year 2010 – when offence number was the highest – this number more or less stayed stable through all the championships.
- Similar as offence number was also the shots number lowest in 2004 (49,75) – with exception in year 2002 (49,57) – and highest in 2012 (56,86), which is 14% higher than 2004.
- Slovenian national team had scored the highest on EC 2006 (31,83) and lowest on EC 2002 (25,86). Among other championships there wasn't any significant difference in achieved goals.

ANALYSIS OF OFFENCE SET-PLAYAND FASTBREAKS AND GOALS ACHIEVED FROM OFFENCE SET-PLAY AND FASTBREAKS

- As expected the data about offence set-play are similar like the data about all offence. The highest number of offence was in year 2010 (53,83) and 2006 (53,00). With the exception of those two years, there are no significant differences amongst the other championships.
- The number of goals scored by offence set-play was highest in 2006 (26,33) and lowest in 2002 (20,71). In all other years the number of offence set-play is stable, almost identical.
- There were less fastbreaks in 2012 (6,86) than in 2010 (9,67), 2008 (8,50), 2006 (7,83) and 2002 (7,71), which is surprise because faster handball was played. The lowest number of fastbreaks was in EC 2004 (5,50). We can make a conclusion from this that teams are rather playin more controllable offence against zone defence or combined defence. With those kinds of offence the preparation phase is very short and players are making very fast decisions about taking shots. New rules have big impact on shorter time of play in offence. I must mention here rule no. 7, which is about play with ball in passive play in offence and rule no. 10, which is about throw off.
- The number of succesfully finished fastbreaks shows the same tendency like the total number of fastbreaks, with exception in 2008 (3,50), where the efficiency was lower compared with 2012 (4,43). Statistic is showing, that the highest efficiency was at the EURO 2010 (62,05%).

TOTAL NUMBER OF ATTACKS WITH PLAYER MAJORITY AND MINORITY AND NUMBER OF GOALS SCORED IN THOSE ATTACKS

- Statistics is showing that thehighest number of attacks with player majority was in 2006 (11,83) and also highest number of goals with player majority (8,00). With exception of this year, there is no significant differences amongst other championships, only a little decline. In 2006 there was 8 goals with player majority (efficieny percent was 67,62%), on last ECh 2012 only 4 goals were scored with player majority (efficiency percent was 58,94%). On ECh 2006 the efficiency in attacks with player majority was by 18,80% better than the overall offence efficiency (48,81%), which means, that the team had a good concept for attacks with player majority.
- The total attack number with player minority was highest in 2004 (9,88) which is approximately 123% more than in 2002, where statistics shows lowest number of those kind of attacks – 4,43. From 2004 to 2010 (6,50) the number of attacks with player minority was in decline, in 2012 came a sudden elevation with 9,57.

SHOTS AND GOALS ANALYSIS FROM DIFFERENT ATTACK POSITIONS

- The total number of individual fastbreaks is in decline through all years. The only exception is the ECh 2012, where a little elevation had occurred (0,29). In the past we've played defence 5:1, so wing players were in front positions with the possibility for fast individual fastbreaks. With the change of defence system – defence 6:0, the number of individual fastbreaks was in decline.
- Goal number from goal area line was the highest in 2004 (5,25) and lowest in 2006 (4,50). Amongst separate championships there is no significant differences.
- Highest goal number from wing position was on EC 2012 (6,00) and lowest on ECh 2002 (2,57). With the exception in 2008 (3,67) there is an elevation tendency from wing positions. I must emphasize, that wing game has made extreme progress –the shots were improved technically and tactically.
- The highest goal score was achieved in ECh 2006 (9,83), when one of the Slovenian players was Siarhei Rutenka, who is a very good shooter from far distance. Lowest number of goals from wing positions was statistically significant in EC 2012, because the backcourt line was lowest that year. Among other championships there is no significant differences.
- The number of shots from seven meters was lowest in 2002 (2,00) and 2004 (2,38) and highest in 2010 (5,00), among other championships there wasn't any significant differences.
- Highest total goal number from breakthrough was achieved in 2012 (6,71), where they were statistically the highest. In that year the average height of the backcourt players was lowest (Dolenec, Skube, Zorman), the players were looking to score from breakthroughs and less from the distance. Statistically significant more goals from breakthrough was on EC 2004 (6,00), on other championships there were less goals, the least on 2002 (2,29).

ANALYSIS OF ASSISTS, TECHNICAL FAULTS, ‘STEALS’ AND BLOCKED SHOTS

- Assists number was highest at the ECh 2006 (15,83) and lowest at the ECh 2010 (12,67), amongst other championships there is no significant difference.
- Total number of technical faults was highest at the EURO 2010 (16,33) – in that year the number of fastbreaks was highest (technical faults are most frequent with fastbreaks, because the playspeed is fastests) and lowest on ECh 2008 (7,67).
- The total number of steals is showing the same tendency as the total number of individual fastbreaks. With the exception of 2010 (2,33), defenders had in 2012 (2,57) taken offenders statistically fewest balls. I do think that this is also connected with the change of the defence systems.
- Total number of blocked shots was highest on EC 2010 (5,50), and lowest on EC 2002(1,43). Amongst other championships is between 2,14 – 4,13 per match.

PUNISHMENTS ANALYSIS

- Two minutes punishments was highest on year 2004 (7,25), where EC was on the home ground. We should not neglect the fact that playing in front of home crowd is something special for players and they are filled with special energy. Among other championships values were more or less equal (around 5 min / match), which means that on european championships one third of mathc time is played with player majority / minority.
- Between 2002 and 2010 the Slovenian team had never got more than the three warnings which the referee can give to players of one team. At the championship in 2012 we’ve got a little more (3,29) which means that referees gave punishments also to Slovenian officials.
- Statistics about total number of disqualifications is very little, which means that players were avoiding violations which lead to disqualification.

GOALKEEPERS SAVES STATISTICS

- There is no statistically significant differences amongst championships. From this fact we can make a conclusion that goalkeepers and shooters are improving in parallel (goalkeepers are adapting to new strategies in shots).
- Total number of shots was statistically significant lowest on EC 2004 (39,38), and statistically significant highest on EC 2010 (50,17). On all championships – with exception in 2004 – values were exceeding 40 shots per game.
- Number of shots from wing positions was statistically significant highest on EC 2012 (11,86) and lowest on EC 2008 (5,67). Perhaps the reason for these goals from wing positions lies in unecessary closing of the first defender. This one should help second defender only in case if the wing had run away from him.

Based on gathered statistical data we can make the conclusion that differences amongst different handball game elements of Slovenian mans national team amongst european championships were very little. That means, that Slovenia is on a constant game level which is enough for us to compete on biggest events and on the same time is not showing any improvements or changes in the national team.

At the EURO 2012 in Serbia we hadbackcourt players with low height. The game was faster (fastbreaks, first throw) but shots from longer distances were missing. All the best teams have high players on backcourt positions.

The number of goals from wing positions is in elevation in the last years – we must point out that in the last years wing game had extremely progressed – tactical and technical shots from wings had become better.

At the WCh 2013 in Spain a small improvement in the game was seen. High backs (Bilbija, Mačkovšek) were scoring from far, other players had more also more room therefore.

Perhaps partly changing generations will make our team better – combination of experienced players and young perspective players.

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Handball Federation of Slovenia

Slovenian Handball Coaches Association

Master Coach Course

Coach-player Relationship

(Seminar paper)

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Table of contents

Abstract

This seminar paper tries to describe the relationship between coaches and players. I have referred to certain known and less-known lecturers and writers. After reading up on the subject, I have tried to describe certain approaches for understanding players and solving conflicts. Interpersonal relationships depend on many factors. Factors, such as player and coach personalities, objectives, motivation, conflicts, leadership etc. are related to each other and intertwined. Together, they can have a significant impact to winning or losing a handball match.

Key words, handball, interpersonal relationships, communication, conflict

1. Introduction

"Life consists of relationships. You can have a relationship with every single thing. Now you have a relationship with the text you are reading," wrote Louise Hay.

In the past, coaches did not pay much attention to relationships with players. Less attention was being paid to how something was expressed. They were simply certain that the way something was said is correct. We can also say that the emotional intelligence of coaches was lower than today. The knowledge existed that a team contains various personalities and that wrong communication or bad player relationships can do much damage, but it was often of secondary importance. It was more likely that the responsibility was passed onto others.

The player-coach relationship has a significant impact on a player's social, emotional and physical development. The coach is a very important person in an athlete's life, because he or she spends a lot of time in their presence. In particular young athletes often identify themselves with their coach and see them as their role model. The coach leads them through their sporting and personal lives. The quality of the relationship can be seen in critical situations. When we are under stress, have doubts over our success or are very disappointed, we need someone who we can trust and believe in. The player-coach relationship is crucial in moments like this. Coaches who have been successful in building a good relationship with a player will be able to help, because players will seek them for help. Those players who do not have a good relationship with their coach will seek help elsewhere or will become defensive. Some players can even end their career due to bad relationships. (Tušek, 2003)

Knowing the meaning of the various factors allows us to better understand the complexity of the player-coach relationship. The player-coach relationship is very important, but is often overlooked. Players and coaches do not know enough about this topic and do not pay enough attention to it. A lot of energy is needed to build and maintain good relationships, because they are crucial for sporting success. People in general do not pay enough attention to interpersonal relationships - this can be observed in our personal lives as well as in sport.

A comprehensive view of an athlete is becoming increasingly popular, but coaches still often disregard it. This is even more evident with coaches without assistants. They must prepare and lead training sessions, take care of organization and solve conflicts. This takes up much time and energy. Such coaches pay more attention to the training sessions than to the players themselves. As a consequence, conflicts start to appear and coaches do not know how to resolve them. As a result, results are not good enough despite the difficult training sessions. However, the player's aspect is only one half of the relationship; it is also important that the coaches feel comfortable in the relationship. An unsatisfied worker is worth less than a satisfied one. The coach's performance will improve if they will have good relationships with players and players are also responsible for maintaining good relationships. Older players in particular are responsible for this.

The player-coach relationship quality depends on many factors. Knowing just the coach's personality is not enough to correctly assess his/her abilities. To be able to correctly asses the relationship quality, we need a multi-aspect approach that takes into account the players, coach, interaction and the actual situation. The factors affecting the player-coach relationship quality must include a wide array of factors related to the player, coach and the actual situation. The factors are intertwined and inter-depended (Tušak et al., 2003).

In recent years, professional sport has seen unprecedented changes and development. It has become even more complex and dynamic and the performance primarily depends on coaches as the leaders. Their role is very important and exposed, because they are a strong influence on other group members, their behaviour and motivation, their mental preparation and fitness levels. They also play an important role in an athlete's development and successful functioning. Professional sport is something that is inherently related to incorporating a way of life in the training framework - it is not just another job. There is no place for fixed working hours and the stakeholders are completely devoted to all essential aspects necessary to achieve top performance. Coaches have very important roles, because they are responsible for planning and execution as well as good relationships within the team. Knowing the meaning of the various factors allows us to better understand the complexity of the player-coach relationship. This seminar paper describes multiple factors affecting interpersonal relationships. Often, not enough attention is paid to interpersonal relationships in practice. Some of the effort must be directed towards building and maintaining interpersonal relationships. A comprehensive view of an athlete is becoming increasingly popular and good interpersonal relationships have significant impact on success (Jakše, 2005).

2. Subject

A coach makes a call to the club doctor.
"Hi Ricardo, it's me, Julian."
"I'm calling because I am concerned about Mario."
"What's wrong?".
"His hearing is becoming worse, I want you to take a look at him."
"Well, hearing loss cannot just suddenly appear and it's not dangerous. Please come both to my office on Monday and I'll have a look."
"Do you think it can wait until Monday?"
"How did you find out that he does not hear well?"
"I am calling him and he doesn't come."
"Perhaps his ear is blocked. "Look, there is something we can do now: We can find out how bad is his hearing. Where are you now?"
"I'm on the court, he is in the dressing room. "
"Call him from where you are."
"Mariooo.... He doesn't hear me."
"Go to the door and call him from there."
"Mario... No, nothing."
"Wait, don't give up. Hold your phone and walk down the hallway calling him. We'll see when he hears you."
"Mariooo, Marioooo, Mariooo... He can't hear me at all. I am standing in front of the dressing room. I can see him. His back is towards me, he is putting his things in the bag, but he can't hear me. Marioooo... He is deaf."
"Step closer."
The coach steps inside the dressing room, gets to the player, puts a hand on his shoulder and hollers in his ear: "Mariooo!"
The player turns around angrily and says:
"What do you want? What do you want, Whaaat do you waaant? You've called me ten times already and I've each time asked what you wanted. Your hearing is getting worse, why don't you go to a doctor...". Adapted from *Let me tell you a story*, a book by Jorge Bucay.

This example demonstrates the relationship and communication between the player and the coach - how do they hear and listen to each other.

The development of player-coach relationships consists of multiple phases. During the initial phase, the players respect and trust the coach. Naturally, the coach must work to build such a relationship - usually they try to maintain authority. The middle phase is when a tighter bond between the player and the coach is being formed. The reason for this is mutual attachment due to working together, having the same objectives and interests and due to the time spent together. This close relationship is under threat in the last phase, and we can expect even more serious conflicts to arise. The player has already learned a lot from the coach, so he deflects the coach's advice, instructions and corrections and does things in his own way. The third phase can contain a lot of conflicts if it coincides with bad performance by the player. Such a crisis demands a lot of understanding and patience from the coach. If they manage to get through this conflict phase, they can later form a partnership of sorts, but they can never be as close as in the beginning. In the last phase, the athlete will most easily accept a coach with a lot of knowledge, because this is the only way to allay doubts, answer questions and fulfil demands for improvement (Tušak and Tušak, 2001).

Conflicts between players and coaches can often arise even in compatible relationships. This is a consequence of a conflict of positions. Coaches increase the workload to achieve better performance, while players try to optimize the relationship between success and effort in a way that enables them to work less for greater success. There comes a point when increased training load becomes a problem despite the fact the it would increase performance. The player expects that the coach uses methods and processes that lead to increased performance without an increased load. It is basically a sporting version of the *perpetuum mobile*. This problem is normally not possible to solve with work streamlining - the only way is increasing the load. Until the athlete does not accept this fact, there will be conflicts and they will not be able to achieve the objectives. The other conflict between the two stakeholders is deeper. Both try to be successful and achieve self-affirmation. When they do succeed, sometimes one of them tries take responsibility for success; when they do not, they both try not to assume responsibility and deflect blame onto the other one (Tušak and Tušak, 2001).

The player-coach relationship depends also on the level the player is playing at (beginner, senior team). Youth coaches must pay attention to the parents and cooperate with them. Things can become difficult if the coach and the parents try to influence the player each in their own way. The parents are supposed to provide support, an opportunity and financial ability. The coaches are supposed to train the players, instruct them and support them. If both of these conditions are met, the players will achieve their goals and aspirations easier. Disagreements between coaches and parents are a frequent occurrence. Such events cause stress and bad performance. Interpersonal cooperation and communication is significantly obstructed. Coaches must find out and show how much parental support the players need and what should the coach's role in the training process actually be. A positive cooperation between the parents and the coach is welcome, because they all can offer the player what they need and so improve their performance. Parental pressure (too high expectations, disagreements about or negation of the coach's work) can negatively affect a player's development (Tušak and Tušak, 2001).

3. Methods

I have used the descriptive method and the primary reference analysis to describe the interpersonal relationships between players and coaches. The primary references are used to describe the different types of influence on interpersonal relationships. The references used in this seminar paper can be found in libraries and on the web. I have used the descriptive methods from the primary references to describe the interpersonal relationships between players and coaches. References are written in Slovenian and foreign languages.

4. Interpersonal relationships

4.1. How interpersonal relationships are formed

Možina, Bernik, Svetic (2004) believe that interpersonal relationships depend on the individual personalities of members of an organization - this means that the basic relationship formation methods in an organization are the following:
The institutional method is the basic relationship formation method between people. People enter a certain working environment. This consists of the duties that must be completed, the rights they have, and the responsibilities they must respect.
The spontaneous method is the opposite of the institutional. These relationships originate in personal questions and problems of individuals. This is how interpersonal relationships are built.

4.2. Player-coach relationships breakdown

Možina (2002) has broken down the characteristics of interpersonal relationships to:

1. *Recognizing diversity*

We must be aware that people are different and that everyone has the right to express opinion.

2. *Relationship reciprocity*

For superior-subordinate relationships. They depend mostly on how both sides view these relationships.

3. *Enabling a reciprocal relationship*

The right to express yourself means the right to create new interpersonal relationships, the right to individuality and to an independent and specific development.

4. *Giving and receiving feedback*

Feedback is important for both sides, because it allows them to get an opinion about what other people think and feel, how the behaviour of others affect them and vice versa. If there is no feedback, there is no genuine contact between people. Interpersonal relationships cannot be changed in this way - neither for better nor for worse.

5. *Recognizing conflicts*

Although they might have a different opinion, the superiors and subordinates want what's best for their organization. Conflicts occur because of this, because they are not afraid of expressing their opinion. There is no development without conflict and every organization must be open to conflicts and conflict solving.

6. *Recognizing similarities in differences in a relationship* - People are different, but also similar in some aspects.
7. *Preventing ambiguous situations*

It is important that opinions correspond with facts, because this allows genuine, clear and simple relationships with the other parties. People must be able to say what they think.

8. *Lack of imposition*

For good interpersonal relationships nothing should be imposed on anyone. It is important that business and personal tasks are defined in agreement with all parties involved.

9. *Lack of incidental or neurotic abuse*

For good interpersonal relationships, using other people to solve personal conflicts is disastrous. Neurotic abuse means delegating tasks we do not want to do to someone else.

4.3. Interpersonal relationship factors

The player-coach relationship quality depends on many factors. Knowing just the coach's personality is not enough to correctly assess his/her abilities. To be able to correctly asses the relationship quality, we need a multi-aspect approach that takes into account the players, coach, interaction and the actual situation. The factors are intertwined and inter-depended.
The following factors are important for coaches:

- Coach's personality
- Professional competence
- Innovation capacity
- Communication skills
- Leadership style
- Emotional control
- Gender and motivation of the coach

The players can also do their part in relationship building. They are equal to the coaches and a relationship will be successful only when both sides are satisfied.
The following factors are the most important for players:

- Player's personality
- Sporting discipline
- Age and experience of the players and gender

In addition to the player and coach factors, the actual situation also has a considerable effect. The reference materials indicate that the structure and dynamics of the player-coach relationships is still under-researched and that studies are often limited to verbal communication between players and coaches. Interaction is an important part of a relationship, but does not represent the whole relationship (Tušak and Tušak, 2001).

4.4. Player-coach relationship characteristics and meaning

There are multiple aspects of player-coach relationships. Research indicates that there are three components of player-coach interaction:

- Technical i.e. instructive component (focussing on the training process and competitions)
- Social and psychological component (taking into account the needs, desires, cognitive and character traits of the player and coach - the so called psycho-social process) and mental component (Cof, 2002).

Interpersonal relationships involve all processes that occur between two or more people. This is a necessary process to build and maintain the interpersonal and other social relationships, but is not actually a social relationship. Interpersonal relationships are a consequence of long-term and continued interactions between people based on cooperation, trust and affection. A new member must communicate a lot with other member before they can build the social relationships with other people whose interpersonal relationships are already formed. Other members need less communication to maintain these relationships, because they are already formed.
The social relationships consist of three interaction dimensions:

- Direct interchange

- An idea about others and an emotional relationship to others.

The basic motivation for long-term interaction is exchange of those material and non-material products that represent a certain value to the people involved. Individuals value their and other interaction products depending on their goals. A successful interaction is maintained only as long as it offers advantages to both sides. People try to increase the advantages and reduce disadvantages through interaction. Individuals have their own value system, needs and abilities to assess the value of a goal and to start interacting. The result of the evaluation on both sides is the interaction. Building and maintain interaction depends on three aspects (Pointkowski, 1976 in Nastran Ule, 2000):

- advantages and disadvantages when entering a relationship
- researching and selecting alternative relationships
- deciding whether the expected interaction is the best alternative for both sides

Individuals use mostly the following two criteria:

- How attractive a relationship is and how depended on the relationship they are.

Both criteria define whether a relationship will be built and maintained, or stopped. Building and maintaining a relationship depends on concious and subconscious evaluations of advantages and disadvantages depending on the experience and other remaining possibilities. Relationships are built and changed even after they are formed. Interaction develops in multiple phases (Nastran Ule, 2000):

- selection phase
- negotiation phase
- agreement phase and assignment phase

4.4.1. Interpersonal relationship dyads

The quality of a player-coach interaction depends on three behaviour determinants of the coach. The interaction was studied through characteristics and compatibilities of a dyadic relationship between players and coaches. Dyad compatibility depends on the player's and coach's needs and the possibilities to fulfil them. Schutz's model for describing personal interaction offers a good base for further research of player-coach relationship (Tušak and Tušak, 2001).

Cratty (1983) says that people need people but often the meaning of these three emotions is broken down within the interpersonal behaviour. The needs of players and coaches:

- Control dimension (the need to control or to be controlled, be independent or increase the independence of others)
- Inclusion dimension (the extent to which the sender and recipient must accept or reject socialization) and emotional dimension (whether a person needs or gives love and care).

The dimension includes giving and receiving and the need to express all of the above.

The compatible dyad in the player-coach relationship is represented by the system, where the needs of the players and coaches are complementary. If they are not, the dyad is incompatible. In reality, absolute compatibility or incompatibility is very rare. Relationships most often enable the fulfilment of more or less complementary needs and this is how the dyad does not

always function in an optimal way. In a complex situation on the pitch, players sometimes compensate the incomplete relationship with the coach with the effect of their relationship with parents, team-mates, public or fans, and the coach can base his functioning on other people's reactions (crowd, team-mates). An i*ncompatible dyad* (players and coaches do not see themselves as the initiators of something in a relationship). These differences in perception between coaches and players appear when the player is unsuccessful or the team is losing. When the player is successful, these differences are smaller or their negative effect is offset by the positive effect of the benefits brought by success (Tušak and Tušak, 2001).

An example of a compatible and incompatible player-coach relationship:

Compatible dyad (positive communication)		
	coach	player
Communication 1	• need for control • no need for expression affection • is socially connected the player	• need for control • no need for showing Affection • is socially connected with the coach
Communication 2	• need for expression feelings • not very controlling • is socially connected with the player	• need for receiving feelings • does not need control • is socially connected with the coach

Incompatible dyad (negative communication)		
	coach	player
Communication 1	• need for control • no need for expression affection • is not socially connected with player	• negative towards control • need for showing affection • does not want to socially connect with the coach
Communication 2	• need for expression affection • toned down control • is socially connected with the player	• need for constant control • need for precise instructions about behaviour and training • no desire for social interaction with the coach

Detailed research of pair compatibility has been made. It was found out that pairs in incompatible dyads consist of partners who differ in terms of giving and receiving feelings. The most important dimension in the relationship, which dominates all others, is inclusion. The most negative relationships are those where both partners are introverted. The most compatible pairs are those who are together the longest, because long relationships improve

communication between individuals in the relationship. The incompatibility between feelings and control often leads to a player leaving the team (Tušak and Tušak, 2001).

Some studies have tried to define the expectations of players and coaches about the role of the individual in the sport. They agreed that coaches control the players and that players passively accept control in the control dimension. In the emotional dimension, both sides are the recipients and nobody is the giver. A similar conflict was observed in inclusion - no one starts the social inclusion (Cratty, 1983).

The difference between expectations of coaches and players perhaps occur due to the judgement of the effort and performance which is based on internal information. Many researchers are studying this topic on the basis of the different interpretation of defeat and victory. The highest number of differences comes up when the player is losing and not winning. The coach tries to control the player more than the external conditions (Cratty, 1983).

4.5. The Imago process between player and coach

As the relationship between coaches and players is complex and should be covered in its entirety, I found out, based on other reference materials, that they both want to, in addition to success, show others, especially parents and family members, that the success makes them worthy of the love and affection of the people closest to them. In sport, this affirmation can be achieved quicker than in other venues. We all need love and acceptance from the ones closest to us, so we want to show them that we are worthy. However, this search for acceptance and love usually ends without fulfilment of the main stakeholders.

Modern psychology calls this phenomenon "Imago". Imago is an image of the subconscious and the most important positive and negative characteristics and behavioural traits of important people (parents and other role models) from our childhood. As discussed above, the relationship between players and coaches resembles partners, and this is why I believe coaches can benefit from being familiar with transactional analysis (Bešter Bertoncelj, 2013).

Players and coaches subconsciously select the relationship which creates a childhood dynamics to heal the wounds acquired during childhood. The Image process uses this context to transform the relationship into an interpersonal relationship with genuine understanding and help for growth and self-realization of every individual (Bešter Bertoncelj, 2013).

Berne E. (1963) called this the script. The script is a subconscious life plan created in the childhood, enforced by the parents, managed by various events culminating in the selected alternative. It is also a general tendency which will realize by repetition in various circumstances, with various variations that continue until death. It is created in early childhood and is the result of a child's response to outside pressure. The family and its members (father, mother, child, sibling etc.) are the main actors in the process.
Among the important relationship quality factors are also the characteristics of the family the player is coming from. The family relationship dynamics allows us to better understand the player's inclinations, expressions and team-mate and coach relationships.

5. Communication

The interpersonal relationships are also affected by communication. There are multiple communication types. For example body language, voice, tactile, smell or spatial communication (Tušak and Tušak, 2001).

The communication area is where most disagreements in the coach's work occur. The disagreements can be between players and coaches, or between players themselves. Despite the human language being very easy to understand, it nevertheless does not have as completely clear meaning as we are led to believe, especially in the context of complex interpersonal relationships and in difficult circumstances. The word communication comes from the Latin word *communication* - report or *communare* - to report. Many people believe that speech is the most important communication mode. However, they are very wrong. It is well known that the words themselves represent only 7% of the message, the pitch and tone of the voice represent 38% and other body language represents 55% (Tušak and Tušak, 2001).

The main two problems in a communication breakdown are distrust and the belief that the other person is responsible. Such communication challenges are: lack of attention, lack of trust, socialization and differing interests between persons, different intelligence levels, shame, communication issues, the advantage of silence, the dissonance between actions and words. Confrontations mostly have a negative connotation, so feelings must be expressed in a constructive way (not attacking the listener, defining the feelings, preparing beforehand), thoughts must be positive (thinking about the consequences), the situation must be understood (gathering concrete data about what happened) and people must have empathy (to be able to imagine yourself in the other person's shoes) (Weinberg and Gould, 2003).

5.1. Communication process

The communication process can be one-directional or two-directional. Someone tries to communicate something and forms a message. This message is then coded into a certain form and then decoded by the recipient (Weinberg and Gould, 2003).
The process itself represents:

- the source (the coach or the person communicating; the efficiency depends on the credibility, competence, physical and mental appeal, condition and power)
- the message (the meaning of the content)
- the channel (verbal or nob-verbal) and recipient (the target i.e. player; the quantity and final information depend on the intelligence, motivation and personality) (Leunes and Nation, 2002).

5.2. Communication types

There are two types of communication: internal and external (when there are at least two persons and the messages make sense). The external communication can be further broken down into verbal and non-verbal. The non-verbal method is an important part of communication. The internal conversation has significant effect on us, because it moulds us and is used to predict how we will react. It affects motivation and behaviour. Effective message sending is very important, because it is the difference between success and failure. The message must be clear, understandable, sent at the right time and place.

Other authors also say that the non-verbal communication is prevalent.
The messages can be divided into two groups:

- the verbal messages: the message is expressed with speech
- the non-verbal messages: the message is expressed with body language (gestures, body position, facial expressions, vocal characteristics etc.).

About 50-7o% of information is passed in a non-verbal way. This is why coaches should pay more attention to non-verbal behaviour. The non-verbal messages are more difficult to hide, because the conscious mind has little effect on them. Consequently, the indicators of well-being are more accurate, although they are also difficult to analyse. Successful communication depends on a number of communication factors: directness (facing each other, concrete suggestions), ownership of message (using "I"), completeness, specific message character, clarity, perseverance, the ability to express feelings and needs, the ability to distinguish facts from opinion, being concentrated on the problem, time frame, approach and return communication.
Coaches are supposed to use the "sandwich" approach to communication. The sandwich approach is very useful, because the coach first uses a positive remark, then explains the instructions and adds another positive remark or compliment at the end. Of course the remarks have to be true and reflect the actual state. Coaches who do not use a positive approach are creating three problems: they put personal relationships into danger, players are losing confidence and they are creating hateful people (Weinberg and Gould, 2003).

Non-verbal communication has many important functions in interpersonal communication (Forgas, 1985):

- in terms of content: it confirms and supplements verbal messages
- on a personal level: it expresses feelings, expectations and it is used to open yourself to others
- on a relationship level: it is used to express opinions, define relationships between people and to direct the power structures
- on an influence level: it is a strong awareness and influence tool, it is used to generalize or slow down the return communication

5.3. Return communication

Players want to know what exactly do coaches think about. Players observe coaches and try to guess what they are thinking. This has a significant effect on their concentration and decision-making. An immediate feedback is more effective and meaningful than a late one. Feedback should be given as soon as possible or as soon as coaches see the behaviour in question. Of course the feedback must be timed depending on the action, so that strong feelings do not affect the message content.
In terms of return communication, it is important to distinguish between listening and what we are listening to (pseudo listening, thinking ahead, selective listening, completely erasing what we were listening to, and negative listening). It is important to prepare yourself to listen (decision) and use supporting (empathy) and flexible listening skills (adapting to the speaker) (Murphy, 2005).

According to Weinberg and Gould (2003), it is important to actively listen, participate in ideas, behave appropriately and respond accordingly to questions and situations, as well as being fully concentrated. An active listener asks specific questions and paraphrases claims

(getting mentally prepared for a conversation). Non-verbal communication, such as direct eye contact or nodding (including visual emotions) is also included.

One of the most frequent messages in sport is the coach's feedback on the player's execution. Coaches follow the players in training sessions and matches and give them feedback about how good or bad they executed a certain task or element. The following paragraph contains all the rules relating to giving feedback to players.
According to Brajša (1993), an effective return information is:

1. *verbal:* expressed with unambiguous words (and supported with consistent non-verbal messages)
2. *positive:* it reinforces correct and proper execution
3. *timed correctly*: when the player is ready to hear it, accept it and understand it
4. *concrete*: talks about a concrete behaviour, action or technical element or part of an element (You did this well.)
5. *descriptive:* it describes what was correct - without judgements
6. *direct*: addresses the selected player directly
7. *understandable*: expressed with words that are easy to understand
8. *objective*: it describes what the player actually executed
9. *genuine*: the player must feel that we actually think and believe what we said
10. *immediate*: immediately after the behaviour or execution of a certain element
11. *constructive*: must point to an improvement or solution of a problem
12. *in good faith*: the player must feel that we care for him and want him to progress

6. Player-coach relationship

6.1. The influence of a message on player-coach relationships

Whenever we direct a message towards someone, we also express our relationship towards them. We tell them whether we respect or appreciate them or show them affection - what we actually think about them. The communication participants are always in some sort of a relationship. It can be superior - subordinate - equal, younger - older, employee - customer, teacher - student, adult - child, coach - player. Every relationship has written and unwritten rules. The roles and statuses have defined sides in the communication processes. This is evident from their communication. If coaches constantly send messages to the players that are not answerable, they are in effect telling them that they are superior, that they disregard their opinion, do not respect them - this affects the player's trust, motivation and winning mentality. The coach's return information and how it is passed on is also important. The messages show the relationship a coach has towards a player or team. When coaches try to fix errors or incorrect executions, this relationship becomes even more important. If the verbal messages contain the coach's thoughts about the player's personality and less about the actual error, then this is the so called *ad hominem* reasoning (e.g. you have no clue). The coach can also focus only on concrete errors - this is called *ad rem* reasoning (e.g. jump forward with knees bent). *Ad hominem* messages, especially if they are mostly negative, can lead to the player thinking what he is like not what he should do better (Tušak et al., 2003).

7. Conflict

Conflict plays an important role in interpersonal relationships. It denotes every situation when the participants do not have the same opinion. Most people believe conflict is one of the following:

- fighting or physical violence
- battle or war (when it involves more people)

Fights, physical violence and wars are destructive responses to conflicts. A conflict is created every time different opinions are faced or when a disharmony exists. It is a state of sub-optimal performance due to a mismatch. It is also a state that requires a response and changes. Conflicts represent danger, but they are also an opportunity to develop personalities, relationships and communities - the participants themselves can decide whether to use it for creation or destruction. As conflict can cause tension or pain (or another uncomfortable feeling at the very least), it forces us to act. This means that we usually respond to conflict (Iršič, 2005).

7.1. Positive aspects of conflicts

By correctly facing real conflicts, we can achieve a higher level of control in our life. Conflicts point to problems, to the presence of our desires to change the existing state. They eliminate stalemates and guard us from the belief that every problem is solved. They also allow us to change as not moving forward can make us complacent. We must strive to gain new knowledge, and repeated conflicts are a good way to find it. In case of conflicts between more people or groups, we must find common goals and solutions - this will make the group stronger (Iršič, 2005).

7.2. Responding to conflict

According to Iršič (2005), there are various types of responses to conflicts:

- We can put it aside and ignore it or stay away from the area of conflict.
- We can adjust - act as if the conflict does not exist and adapt our behaviour (or just the appearance). We adjust (consciously or subconsciously) out of the fear of the pressure we expect to experience if we expressed the problem.
- We pressure others (with requests, extortion or allegations) to adjust or solve the problem.
- We seek a compromise that can be achieved when we believe we can get something out of it - otherwise we would risk losing it all.
- We start resolving the conflict which takes much more time and effort but leads to better solutions. Solving a conflict means finding a solution that is best for both parties and both parties keep their interests and good relationships.

Solving conflicts between players and coaches have numerous benefits:

- We can become aware of the problems and find appropriate solutions
- It accelerates changes
- It breaks monotony
- It mobilizes energy and allows us to get to know ourselves and others while the relationships become stronger and richer

If the player and the coach do not try to solve their conflicts, they can become worse and start to repeat themselves - they become a source of hostility and frustration. This represents a risk for:

- diminished communications
- worsening relationships
- relationship breakups or an increased level of violence
- the development of psychosomatic disorders or development disorders of individuals or the entire group

Despite the fact that solving conflicts is generally the best solution, it is not always practical (if there is not enough time). If we concede, because the issue is not very important for us, we can expect that the other party would also concede in the future. Using the same solution too often can also lead to undesired side effects:

- if we always concede, we start to think we are weak, humiliated and taken advantage of. If we always adapt, we must always negotiate and will always have to concede at least something.
- If we always win, we are destroying the relationship and are becoming unpopular.
- If we want to solve the conflict at any price, we are losing time and energy unnecessarily.

We must maintain a balance between standing up for ourselves and taking care of others. When we are trying to adjust the interests of two people, it does not always make sense that each of them concedes something. It can happen that they find a way to fulfil the interests of both. Recognizing conflicts and developing conflict management skills. We are afraid of conflicts and avoid them because our experience tells us that they lead to violence. But this is not always the case. Not recognizing conflicts and not knowing the appropriate conflict resolution methods is much more dangerous (Iršič, 2005).

7.3. Conflict resolution guidelines

- *Partnership* means that we look after the other party despite the conflict and we try to solve the conflict - not beat the partner. It means that we fight together for the relationship and not one against another. Even if there is a fight, we later talk and try to find the best way to react. We can also work out the rules that apply during fights. This means we can remain partners even in fight. A partnership means that we maintain a good relationship and mutual affection despite disagreements. This means that we do not see the other party as the enemy and us as the victim and that we maintain the interests and values of both.

- *Respecting diversity* – conflicts often occur when we believe something to be true when it is far from so. While we are sometimes very similar to one another, there are many small differences (the meaning of words, how we see the situation etc.). Assuming responsibility. During fights, we often blame to other person. We usually try to prove their responsibility but we just make the situation worse.

- *Assuming responsibility* means finding the problem and seeking a solution, not blaming others. We must assume responsibility also for the general state of affairs. We often wrongly expect that others would feel what we want. And then we believe that

they do not want to grant us our wishes. This means we must take care that others know exactly what we want (Iršič, 2005).

7.4. Maintaining communication, calming down

Conflicts often end in communication breakdowns. During this time, anger, frustration and a feeling of injustice pent up. If we stop communicating, we see ourselves as a victim and the other person as the perpetrator. This means communication should never break down (if possible). We can take a time-out (breaking communication to calm down and cool). The body needs about 20 minutes to calm down, provided that we do not feed the feelings with negative thoughts. It is important that we return to the topic that started the fight. If not, we will not be able to find a solution. The conflict will become deeper, and the relationship worse. When we are upset, it is important that we stop and take a breath. If we continue the communication without stopping, we can significantly damage the relationship (Suhadolc, 2009).

7.5. Using communication techniques in a conflict

The reference materials contain a few conflict communication techniques that are suitable for coaches and players.

- Mirroring is repeating a word, phrase or sentence as they were spoken at the beginning. By mirroring, we "out-mirror" a thought or a part of a thought that we heard by repeating exactly the same words. Mirroring is used to direct the attention of the other person to those parts (or the whole) that we believe are important for them or for the conversation. In a way, mirroring is highlighting important statements.

Whether to mirror the entire thought or just a part depends on our intention. If we do not want to affect the direction or we want to just encourage the other person to continue thinking out loud, it's better to mirror the entire thought. When we want to affect the direction of the conversation - when a part of the thought seems more important or we believe it is important for the other person - then we mirror just this part.

- Active listening means asking questions, agreeing or summarizing in your own words what the other person just said. If the summary is wrong, the speaker can again explain what was said and the listener can again paraphrase until the speaker agrees that the summary corresponds to what he intended to say.
- "I" clauses are used to show acceptance, non-aggressiveness and our readiness for an open conversation. "I" clauses first describe the concrete action, its consequences and then we express our opinion. Example: "you did not defend as we agreed, so I believe ..."
- Interpretation is offering the player an alternative view of an information or action about what they feel, think or do. By interpreting, we can help the player express their feelings and desires that appear in the given situation (Vec, 2001).

For the conflict communication techniques to be as effective as possible, the coach must pay attention to the following instructions, especially if the players are problematic (Bon, 2007):

• put yourself in their position

• be a good listener
• players have a right to demand something, but it may turn out that the demand is impossible to fulfil
• Be respectful when communicating
• Make the communication personal
• Stop inner monologue
• Paraphrase the players' messages
• Check details
• Has the player left anything out and why
• Write down the message and pay attention to non-verbal communication

8. Leadership

In addition to possessing personal leadership skills, coaches must be able to adapt to every sudden change in the environment. Leadership success does not depend only on the personal traits of the coach, but also on the team structure and the current situation of the group. It is important that coaches develop a unique leadership style that is effective for the team they lead. Coaches should not try to mirror other successful coaches - however, it makes sense to compare leadership and training techniques (Suhadolc, 2009).

8.1. Leadership factors

- Leader behaviour (coach): the best way to increase the cohesion of a sports team is for the coach to behave in a way that is directed towards achieving results. Defining the team goals and building a strategy for achieving them are two important elements. It must be added that low-cohesion teams must focus on the results, while in high-cohesion teams, people-directed actions are more effective (teams are directed towards results by default and additional pressure would cause the players to revolt).
- Decision style: as players believe that decisions are also theirs, a democratic system can achieve cohesion more easily. But we must again warn that not all decisions should be taken together with the players, because this can lead to chaos.

8.2. Factors for the whole team

- *status:* if most of the players are satisfied with their status, cohesion can develop easier. The reverse process is even more pronounced. Teams that are very focussed on achieving results pay little attention to status differences.
- *roles:* coaches can improve the unity of the team by influencing the clarity, acceptance and execution of roles held by team members.
- *team norms*: the relation between cohesion and norms runs in both directions. Higher cohesion increases conformity and respecting norms of the entire team affect the cohesion.
- *team goals and rewards:* in addition to individual goals and rewards for achieving these goals, teams must also have team goals.
- *group effectiveness:* group effectiveness (when players believe they can together achieve the desired results) and cohesion are closely related. (Tušak, Misja and Vičič, 2003).

8.3. Personality factors

- Similarities in personal traits, such as race, nationality, socio-economic status and religion. In sport, it is very important that these differences do not affect relations between players, but research shows that reality is often very different.
- Similarities in opinions, expectations, goals, team dedication and ability. It is difficult to create a team where players have this many similar factors. The role of the coach is to develop similarities at least in the factors that affect performance. In team sports, this means unity - equal requirements for the behaviour of players during training sessions, matches and sometimes also in private life.
- Individual happiness: many factors affect the happiness of athletes. Quality of performances, the possibility of social interaction with team-mates, feeling of progression, recognition from parents, partners, coaches, friends, public and good cooperation with the coach.
- Dedication: if team members with a high status are dedicated to the cause of the team, the cohesion increases. This is why coaches like to see the top players and team captains to be an example to other players in the most difficult aspects - in pre-season, in terms of team relations, when the results are bad etc. The same is true for teams playing at lower levels. If a team contains an older player who used to play at the top, his behaviour has a significant influence. If this player works hard in training sessions and matches, he can encourage other players to do the same. But if he plays only for himself and has a low opinion of the competition level, he can have a negative effect on the team, because the team-mates' morale decreases (Tušak, Misja and Vičič, 2003).

8.4. Coach leadership styles

Coaches select their leadership styles depending on:

- Team maturity
- Team size
- Stress level and the presence of predictable and unpredictable situations

Leadership styles are divided into:
Autocratic - The leader plans activities alone, makes decisions independently and delegates tasks to players. Such coaches feel the need to control the players, they act dominantly and do not allow any individual freedom. The communication flows in one direction only. It has a positive effect on players who are used to being subordinate. Under stress, players feel more secure and safer. The players who are not used to this can suffer a relationship breakdown with the coach and further cooperation is impossible. Players often react negatively to this leadership style - by being passive, apathetic or less motivated. An authoritative coach is usually strict and wants to fulfil the goals which lead to high productivity, provided that the players have a good opinion of him and respect his decisions.

Democratic - The leader plans activities in cooperation with the players. The communication flows in both directions. The coach encourages and directs the players and leaves decision making to the group. Communication in the group is easier, cooperation between the coach and the players is better and the coach is better at spotting potential problems, fears and

discontent of players. This allows the coach to be better at predicting and detecting behaviour in the team and by individual players. The coach accepts the players' decisions and their independence increases as they assume some responsibility. The coach is not an all-powerful figure, but accepts the opinion of the players and respects diversity.
Democratic leaders make players more motivated and team spirit is better. This leadership style is especially important in adolescence, because players need a deep and more understanding relationship with the coach due to the changes they experience in this period.

Anarchic- The leader is not involved in the work of the team and lets things run their course. The coach leaves the players to fend for themselves, but is available if they need him. Things are resolved by themselves and members act as they see fit. The result of this leadership style is a loss of authority. This can lead to anarchy in sports teams. This leadership style is successful only if the players are mature and capable enough and the inter-group relationships are strong enough. Inexperienced players feel lost in this system (Nastran-Ule, 2000).

This leadership style is not used much in team sports, such as handball. The autocratic or democratic styles are much more frequent.

The autocratic and democratic styles are the two extremes, and the actual leadership style is an approximation of one or the other. Every autocratic leader must respect the opinion of others in the group when making decisions, and every democratic leader must, to a certain extent, pressure his players to follow the defined roles and rules. The leadership style depends on the personality, situation, group structure, group tasks and interpersonal relationships. Coaches know that good communication between players is very important for success. In team sports, coaches want their players to have good communication on the court to be able to execute their tactical ideas. Being able to effectively transfer knowledge to the players is very important for technical and tactical skill training and execution during matches.
Coaches are probably less aware that the method and content of their daily communication with players affect motivation, confidence, stage fright and concentration of players - their entire metal condition. In team sports, team spirit, cohesion and team cooperation are included as well (Nastran-Ule, 2000).

8.5. Coach approach

The quality of the relationship can be seen especially in critical situations. When we are under stress, have doubts over our success or are very disappointed, we need someone who we can trust and believe that they can help us. The player-coach relationship is crucial in moments like this. Coaches who have been successful in building a good relationship with a player will be able to help, because players will seek them for help. Those players who do not have a good relationship with their coach, will seek help elsewhere or will become defensive. It is important that the player and the coach establish contacts, that they talk a lot and trust each other.
Only then will they feel they are spending quality time and will be happy to cooperate. The relationship must not be considered only from the player's point of view. The coach's feelings are also important. An unsatisfied worker is worth less than a satisfied one. Coaches are more satisfied if they have good relationships with their players and players must also work to maintain them. Older players in particular are responsible for this. (Tušak and Tušak, 2001).

The social phychologist Fiedler created a four dimension performance model. These dimensions must be taken into account when we talk about a leader-follower relationship, They are: the nature of the task, power signs seen in the leader, and interaction types between them. Fiedler used a questionnaire to determine if a subject is naturally superior or subordinate. People who are most popular and least popular for a certain work type were used. Most believe that highly goal-oriented leaders in connection with highly socially-oriented leaders are those that have the greatest impact in the team's success. There are not that many differences between the rest (coaches, players, teams) in terms of who has the biggest impact. However, research has shown that interpersonal relationships are less important and that their mentality (winning or losing) is key. The crucial aspect of success is supposed to be a change in leadership style depending on the situation (Cratty, 1983).

An example of leader orientation:

Goal-oriented leaders	
advantages	*disadvantages*
Higher efficiency, energy is directed towards the task	Uncertainty can increase with certain members
little time for interpersonal communication	sacrifices insights for member safety
Quick work and work structure delegation	Less effective in stressful situations when other members would like to act as well
Highly effective in situations where leadership is highly favoured	Worse cooperation with strong subordinate individuals who would like to be deputies

Socially oriented leaders	
advantages	disadvantages
Can reduce tension in situations when task execution failed	A lack of care for successful task execution
Can work more easily with uncertain people	Less effective in highly stressful situations where the focus is on power and power symbols a leader must possess
Can work more easily in situations when members need safe guidance	Can cause uncertain answers in members who are highly goal-oriented

Hersey and Blanchard suggest using a situational model - using a goal-oriented leadership style in immature teams - and when the team matures, using a proper combination of goal-oriented leaders and socially-oriented leaders to achieve success (Cratty, 1983).

9. Gender and motivation of the coach

The quality of the relationship is also affected by the gender of the coach and players (female coach - male player, male coach - female player, male coach - male player, female coach - female player). There are not many studies of how gender affects relationships. Some indicate that female coach - female player relationships are more intimate, emotional and sensitive than male coach - male players. Female coaches are showing a higher level of emotional affinity and attachment and a higher level of interdependence is developed between players. In contrast, male coaches and players are goal-oriented and the goals have no significant emotional dispersion. Of course, the actual relationship regardless of the gender is the most important which means that the ideal relationships can be seen only in reality and are subject of various studies. The work methods and approach of each female or male coach play an important role, as well as how much do the players trust, respect and cooperate with the coach. (Suhadolc, 2009)

10. Player and coach motivation

This is a question every coach has faced before. Some indications can be found in studies that divide motivation in 7 incentive systems (Tušak and Tušak, 2001):

- completeness – that you are good at something, to do something perfectly
- power – the ability to control and influence opinions others have of myself (coach, team-mates)
- thrill – thrill, sensory experience, attraction
- independence – the ability to do something without advice, independently without critique
- success – achieving status, prestige, social approval for our achievements
- aggression – physical domination over other athletes, subjugation
- grouping – building strong inter-personal relationships

These motivational factors are used for coaches and players.

The desire to enjoy and have fun is particularly important. In professional terms, it is called the desire for experience or activation. This is a basic human need for having fun. If the activation level is too low, we seek stimulation, mostly in the form of pleasing stimuli. On the other hand, when the activation levels are too high, we react with fear and anxiousness and try to reduce the number of experiences (Kajtna, Jeromen, 2007).

Coaches are interested in concrete methods to motivate players and improve performance - how to prepare the player to do something they otherwise would not be capable. "Every player has a *red, hot button*" (Tušak, Tušak, 2001).

The main problem in sport is finding this red button and pressing it, so that the player's execution will be optimal. The coach is responsible for finding it and "turning on" the player. As each player has a "hot button", the "turning on" techniques are different (Tušak, Tušak, 2001).

Every player has his own motivational technique which makes this task in team sports very difficult or almost impossible. It is very important to direct the team's behaviour towards a goal. The intensity with which a player participates in a certain activity is a function of the gain the individual expect because of the participation. In adolescence, this gain is not primarily monetary, but more likely related to personal satisfaction due to the team's success, good individual performances and making friendships (Klemenčič, 2008).

11. Results and discussion

Writing this seminar paper, I have come to the conclusion that we do not pay enough attention to inter-personal relationships in our daily lives and when coaching players. Inter-personal relationships are particularly important when working with people. I believe players are particularly sensitive, because they must obey their backroom staff. Coaches often forget that amateur players are even more sensitive. We look at them as a means to an end, but we fail to see that they are people with good and bad characteristics.

The player's relationship with the coach and team-mates has an enormous influence. The player-coach relationship must be relaxed, calm and the player should understand the coach and pay attention to his instructions. The coach should have the same relationship with all players. However, this is easier said than done, because every player is different.

Every player also has a different opinion of the coach. Every player is an individual which means that everyone understands the coach in his own way. The relationship of the coach towards certain players is different and sometimes even abusive and less quality players may feel inferior which may have a negative effect on their game.

It is impossible for the coach to not make any differences between the players. Every player is different but they all have the same goal - winning. A good player has a positive character, is ready to cooperate with others and has good leadership skills. A player without these tendencies tries to attract attention in another way.

Players differ in various factors (character, role, playing position, age, nationality, culture etc.), but everyone is equally important in a team. The coach should be aware of this as well. The coach is a leader who is able to predict what will occur in the team. If the coach does not know his players, he will not be able to react to their actions which can have negative consequences.

The coach can indirectly affect the player by offering him advice, experience and a moral example. This must be done in a positive and with principles. The coach should not make differences between the players. His relationship with the players must be similar to what he would want from them. Respect and honesty are crucial for a good player-coach relationship. The coach leads the team and is the one person who must know its every detail. The coach's heart must beat in sync with the team for the team to become strong and have a winning mentality.

12. Conclusion

Building inter-personal relationships is in the human nature. We are always in a relationship whether we are aware of this or not. Most changes occur at the subconscious level and we are not aware of them until we sense a change in our behaviour, until we start feeling unwell or until other people tell us so. The speed of becoming aware of the changes and the understanding that we build inter-personal relationship ourselves can be of great help in our lives. We alone can decide what kind of relationships we want. They can be deep, superficial, friendly, hostile, business-like, numerous etc. They can have a negative or positive effect on us. Inter-personal relationships are ever present and are transforming us, but if we are aware of them we can change them the moment we wish to do so.

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HANDBALL ASSOCIATION OF SLOVENIA

Association of Handball Coaches of Slovenia

Training course for the title: Master Coach

“Description of a Selected Tactical Combination for Offense Play against a Set-Defence and Description of the Learning and Training Method”

(Thesis)

Mentor: Marko Šibila, PhD **Author: Vesna Petrović**

Place and date: Ljubljana, 5 June 2013

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ABSTRACT

The game of handball has developed in leaps and bounds throughout its history and is still developing today. Such continuous development requires progressively more speed, agility, physical fitness and primarily technical and tactical knowledge from the players. Handball used to be somewhat slower in the past and was characterised by fewer attacks and subsequently fewer goals. Today, however, we can see intense defensive action in the fight for each and every ball, and after the ball had been won, we can observe rapid and organised fast breaks and semi-fast breaks as well as potential tactical substitutions of defensive players. Much more players are now actively involved in the game and the coach's role in assembling the team is of a tactical nature. In their work, coaches use video analyses of their own team as well as the opposing team. For coaches in higher-level competitions, this is an unavoidable tool for the tactical preparation of their teams.

Throughout the various training phases, which depend on the programme and/or the club's guidelines, we come to a stage when we start teaching the team combinations, i.e. plays. The aim of such combinations is to provide players with even more knowledge, and merge the technical and tactical knowledge into a particular sequence that should allow the team to carry out a successful attack. As a rule, combinations are prepared depending on the composition of the team whereby the aim is to exploit the team's advantages. In a particular game, we use those combinations that exploit the weaknesses of our opponent.

KEYWORDS: combination, attack play, attack tactics, circle runner (line player or pivot), defence formation.

1 INTRODUCTION

Sports is a word associated with positive values. These include fair play, cooperation, good physical abilities, healthy way of life and so on. We distinguish between individual and team sports. The topic of this thesis involves a team sport, i.e. handball.

Handball is classified into the group of polystructural complex sports. We arrive at this classification based on the motor structures. The game is composed of a myriad of individual elements performed by the players individually or in cooperation with their teammates, namely with or without the ball.

The second characteristic of handball, therefore, is complexity. It requires a lot of individual knowledge as well as situational awareness relating to the team as a whole. However, players must also face their opponents who strive to obstruct or hinder an individual's cooperation with their teammates. Another important aspect is the knowledge of the numerous rules governing the game of handball. A player's ability is influenced by many factors, which primarily include the quality of the training, motor and psychosomatic abilities. The game of handball: it is played by two teams, each having 16 players. The players on the court include six players and goalkeeper (there are fewer players on the court in the event of suspensions), while the other players act as potential substitutes. The team in possession of the ball is the attacking team, while the other team is the defensive team. The team that scores the most goals or receives fewer goals is the winning team. The handball court is 40 metres long and 20 metres wide, which means it forms a rectangle. Two referees are present on the court. Another two officials overseeing the game are the scorekeeper who keeps the score and the timekeeper who keeps the time. In higher-level competitions, there is also the game delegate.

1.1 Combination

A combination is a method by way of which we attempt to break the opponent's formation. A combination usually has an agreed start, while the continuation of a combination can differ, primarily depending on the opposing team's reaction and the resourcefulness (creativity) of the players carrying out the combination. The aim of the combination is for the players to gain an advantage or to get into position where they are able to score. It is very important for the attackers to be creative and inventive and to skilfully avoid the traps set by the defence formation.

In conversations between coaches, we often hear the assertions that, irrespective of our opponent, there is no defence to prevent the realisation of the combination if we play it superlatively.

2 THE GAME OF HANDBALL

As mentioned above, handball is classified as a polystructural (multistructural) complex sport. This means that handball is composed of or structured from many individual elements (structural elements or technical-tactical elements or elements of basic or specific handball motor skills) that are performed by players. These elements occur in a complex manner during the game, namely during cooperative interaction with teammates and in conflict with the members of the opposing team. When cooperating with teammates and obstructing (hindering) the cooperation of the opponents, different structural situations (plays) transpire that may be considered typical, but which are used in the game sporadically or in an unexpected way as a novelty, whereby they are not recognised by the players of the opposing team. A game of handball is divided into phases or parts.

The basic division is that of the two main phases:

- **the defence phase** – this is when the ball is in the possession of the opposing team and we defend or try to prevent our opponents from scoring;

- **the attack phase** – this is when we are in the possession of the ball and try to score a goal.

The defence phase is further subdivided into two sub-phases:

- the defensive comeback sub-phase: the players try to return back to defence, which is organised so as to prevent the opponent's fast break and so as to transition as fast as possible into the man-to-man, zone or combined defence;

- the defending sub-phase employing a zone or combined formation or a man-to-man defence formation (the man-to-man defence formation is also used when retreating back to defence (defensive comeback), whereby it involves an organised way of defending using a man-to-man defence system after possession of the ball is lost (turnover) without forming a zone or combined defensive formation)).

The attack phase is also further subdivided into two sub-phases:

- the fast break phase, which can be free (individual) or organised (team). In modern handball, the extended fast break is also used, which is played when the defensive players have already retreated back to defence, but have not yet completely formed zone or combined defence formations;

- the sub-phase of attack on a formed zone or combined defensive formation.

(Bon, Pori and Šibila, 2006).

2.1 General Classification of the Attack Handball Technique

When attacking:

WITHOUT POSESSION	**WITH POSESSION**
Positions	Positions
Walking	Bouncing
Transitions into running	Catching
Running	Passing
Tackling	Shooting
Changing direction	Faking
Pivoting	Dribbling
Jumping	Blocking
Falling	
Standing up	

2.1.1 **Structure of the Attack Handball Technique**

Individual:

- player movement,
- avoiding violations,
- throws,
- faking.

Team:

- opening up for a pass,
- running in,
- crossings,
- blocking with screening,
- double (return) passing,
- passing with run-up.

Collective:

- fast break,
- extended fast break,
- attack on a set zone or combined defence formation:
- with a circle runner (line player),
- with transition to two crossed attackers;
- special situations:
- numerical superiority,
- numerical inferiority:
- with a circle runner (line player),
- without a circle runner (line player),
- nine metre throw.

(Bon, Pori and Šibila, 2006).

3 HANDBALL ATTACK TACTICS

In everyday practice, we come across two terms that are often used interchangeably, i.e. game tactics and game strategy. Development of modern sports has made the above two terms a part of sports terminology. They are especially important in game sports where tactical preparation is one of the central elements of the preparation of athletes for games. The number of attacks per game is on the rise (on average, each team carries out as many as between 55 and 60 attacks), meaning that the duration of an individual attack is shorter. In recent years, we have been observing a high level of variety in terms of the composition and selection of different combinations used by handball teams in the attack on a formed zone or combined defence formation. This finding also applies to attack plays where the team is a player short or has a player more than the opposing team.

The term combination implies a temporally and spatially harmonised (sequentially and simultaneously) and organised linkage of the individual activities of several players into a logical whole. The individual activities of attackers are thus efficiently linked and effective in breaking up particular defence formations. In a combination, the actions of players are used in such a way as to be most effective within joint action.
(Šibila, 2007)

4 DESCRIPTION OF A SELECTED TEAM COMBINATION SUITABLE FOR ATTACKING A 5:1 ZONE DEFENCE SYSTEM

Depending on their basic initial formation and mechanisms, different zone defence systems are characterised by various weaknesses. In studying the actions of players in different zone and combined defence formations, experts tried to establish what play situations are typical in a play of attack on a formed defence. Based on the findings, they tried to determine the attack activities that are least suitable for various defence systems and those that present the most difficulties to such defences. Attackers, therefore, attempt to create such situations with their different actions that are the most difficult to resolve for a particular defence system.

An example of this could be the different transitions to the second circle runner (line player). These cause a lot of difficulties to deeper defence systems, while they have also been successfully used lately in attacks on a 6:0 zone defence system. The plays in different defence systems are also constantly being changed and complemented. Lately, we have been meeting with many different forms of classic defence systems where defence formations primarily attempt to neutralise the classic attack activities of the opponents. On the other hand, attackers use new and complemented activities to surprise the defenders and exploit the weaknesses of classic and variant defence formations. It is thus that the defensive plays within formed defence formations and plays of attack on formed defence formations constantly develop and advance through mutual interaction. (Šibila, 2007)

4.1 Working Method

LB passes the ball to CB. The CB performs a crossing with the RB and runs to the goal area line (6 metre line). The LP is located between the third and second left defenders. The location of the CB who crosses to the position of the CR is behind the back of the second right wing defender. The RB passes the ball to the outside left player who then decides on one of the possible completion moves. The combination is especially effective when the second defender is in a deep position.

Variants: LB shoots, pass to CB who runs to CR, pass to LW, pass to LP
(Bon, Pori and Šibila, 2006).

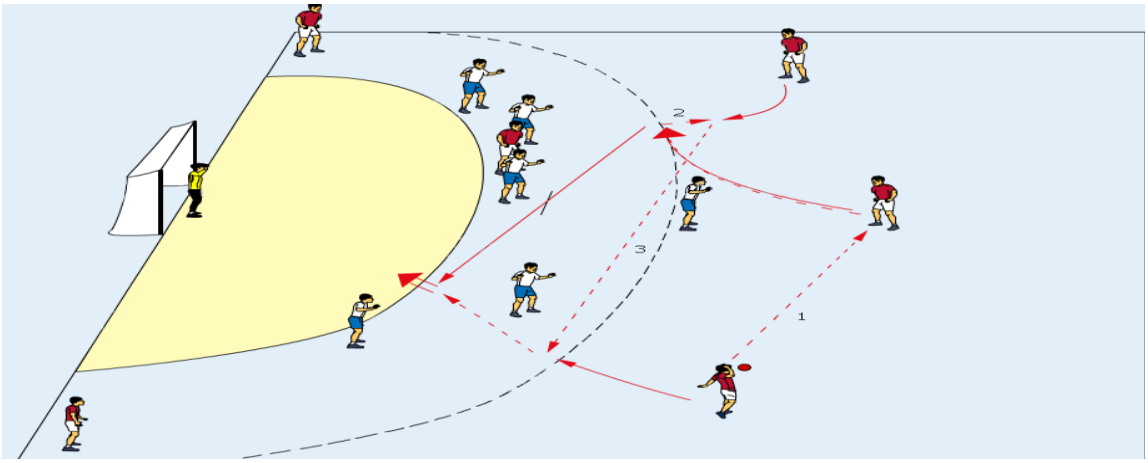

Figure 1:

Figure 1 shows the transition of CB to the second LP after the crossing with the RB attacker.
(Bon, Pori and Šibila, 2006)

4.1.1 Methodical Procedure for Learning and Training Combination No. 5

Play No. 1:

The players are positioned on positions LB, CB and RB. At least two players have to be in each of the abovementioned positions. LB passes to CB who performs a crossing with the LB. After the crossing, the CB transitions to the second LP. After the crossing, the LB passes to the next person in the line that is manning the CB position, and this player in turn crosses with the RB. The CB again transitions to the second LP, the RB passes to the next person in the line that is manning the CB position. Practice is conducted according to the principle of continuous rotation. After transitioning to the second LP, the CB returns to their line. The LB or RB return to their respective lines.

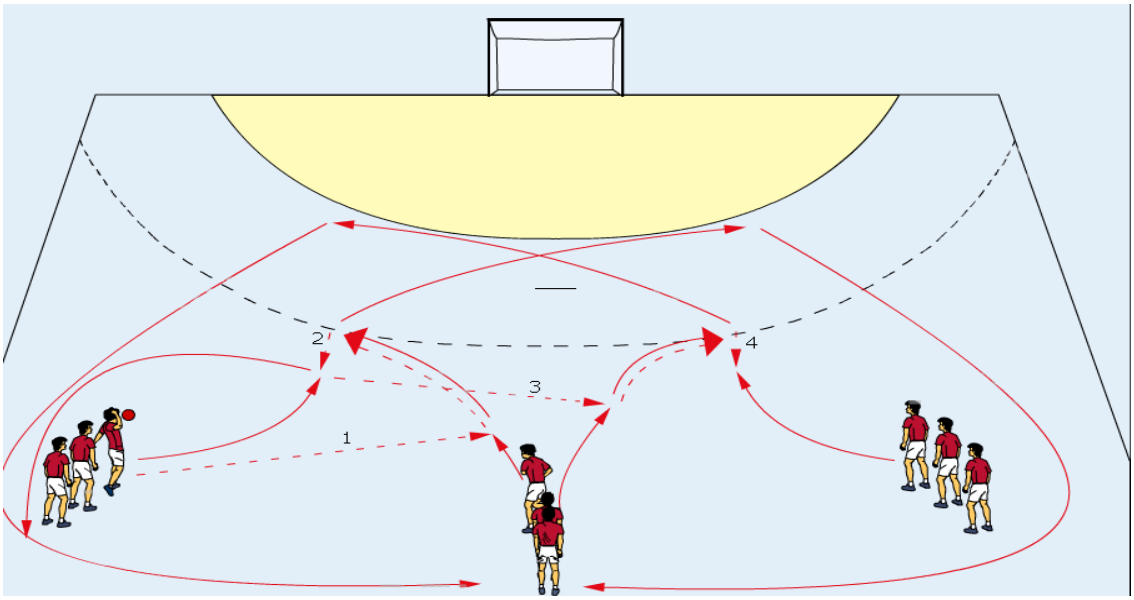

Figure 2:

Figure 2 shows the first step in the methodical procedure for learning and training combination No. 5.
(Bon, Pori and Šibila, 2006)

Play No. 2:
players are arranged in playing positions in the same way as in the previous exercise. LB passes to CB who performs a crossing with the LB who in turn performs a long pass to the opposite outside player (RB). After receiving the long pass, RB shoots or passes to the CB who is opening up for the ball along the goal area line – in the position of the second LP. The exercise is carried out by alternating between the left and right sides.

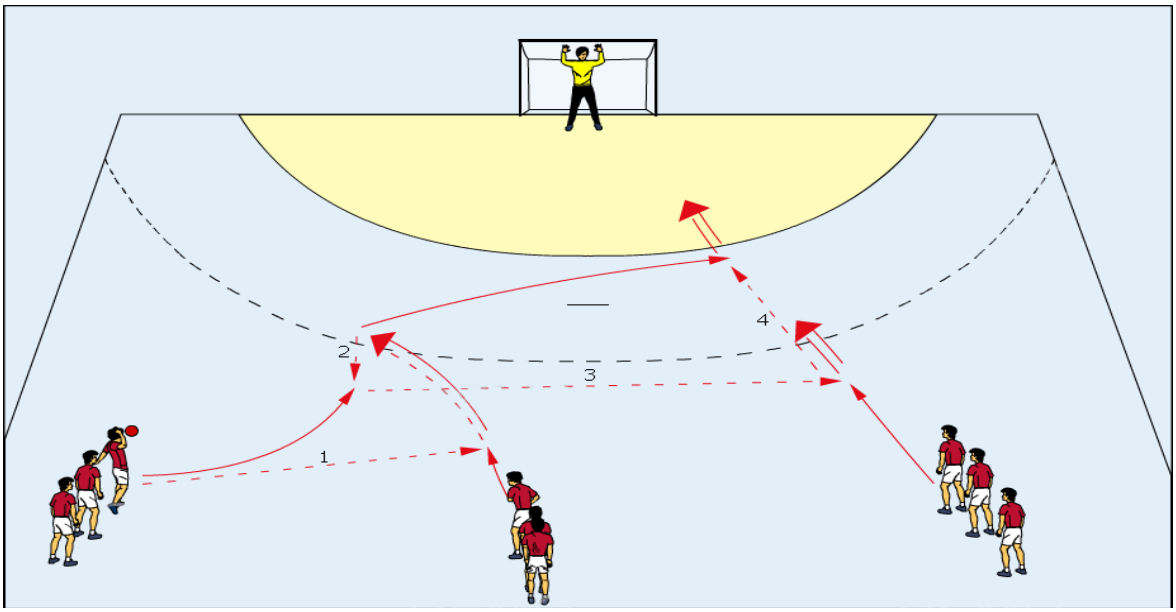

Figure 3:

Figure 3 shows the second step in the methodical procedure for learning and training combination No. 5. (Bon, Pori and Šibila, 2006)

Play No. 3:

The players are arranged in playing positions in the same way as in the previous exercise, but we now add a defender that is positioned in position 2L. In this exercises, the CB performs a crossing with LB as an initial part of the play, after which the CB transitions to the goal area line – to the position of the second LP. This is followed by a long pass to the RB. After the CB transitions to the goal area line, i.e. to the position of the second CR, the RB and the CB (in the position of the LP) in a 2:1 play with the defender must select the best option for completing the attack with a shot. The options available to the RB are: shot, breakthrough, return pass to CB who is opening up for the ball in the position of the LP, fake pass to the LP – breakthrough. The exercise is carried out by alternating between the left and right sides, whereby we can use two defenders, i.e. one on the left side and the other on the right side.

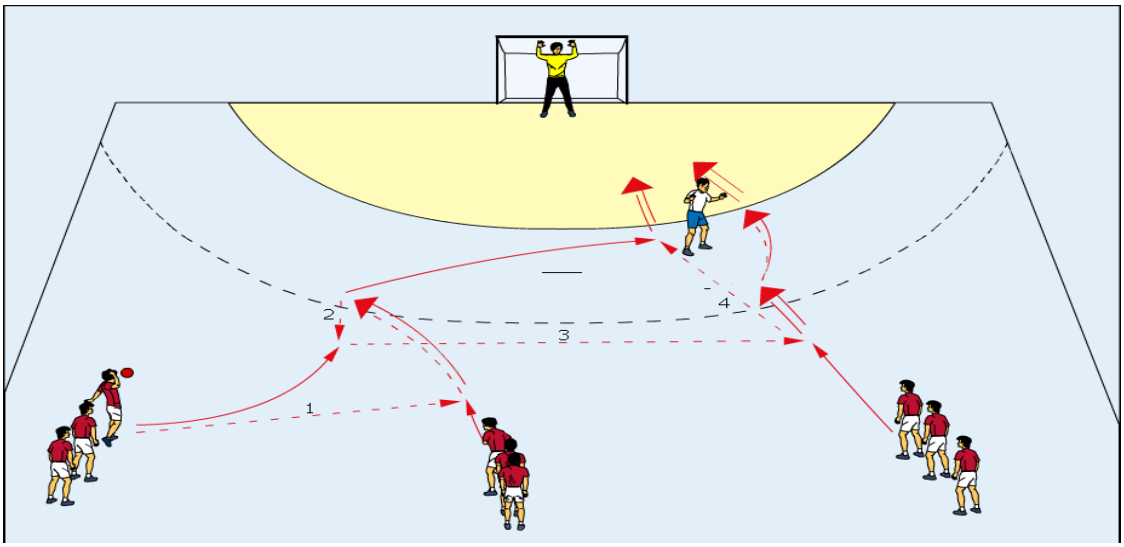

Figure 4:

Figure 4 shows the third step in the methodical procedure for learning and training combination No. 5. (Bon, Pori and Šibila, 2006)

Play No. 4:

The players are arranged in playing positions in the same way as in the previous exercise, but we now add a defender that is positioned in position LP and two defenders in positions of CB and 2R. The LP is located between the centre back and the second right wing defender. After the initial part of the exercise, the RB, CB (in the positions of the second LP), LB and the CR play a 4:3 system with three defenders. The exercise is carried out by alternating between the left and right sides.

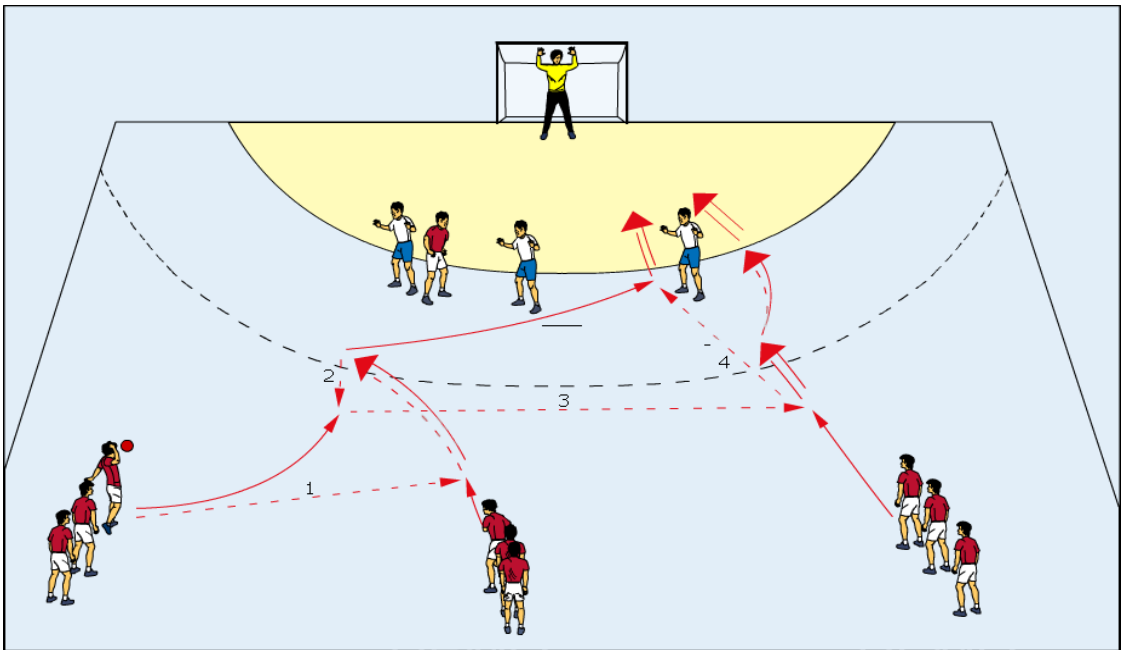

Figure 5:

Figure 5 shows the fourth step in the methodical procedure for learning and training combination No. 5. (Bon, Pori and Šibila, 2006)

Play No. 5:

The players are arranged in attack playing positions similarly as in the previous exercise, but we now add a defender that is positioned in the CF position. This initial part of the exercise is conducted similarly to that of the previous exercise. After the CB transitions to the goal area line, i.e. to the position of the second LP, the RB and CB (in the position of the LP), LB and the LP in a 4:4 play with four defenders must select the best option for completing the attack with a shot. The options available to the RB are: shot, breakthrough, pass to CB who is opening up for the ball in the position of the LP, pass to the LP. Because this case involves a numerically equal number of defense and attack players, the performance of the combination must be that much more precise and effective. The exercise is carried out by alternating between the left and right sides.

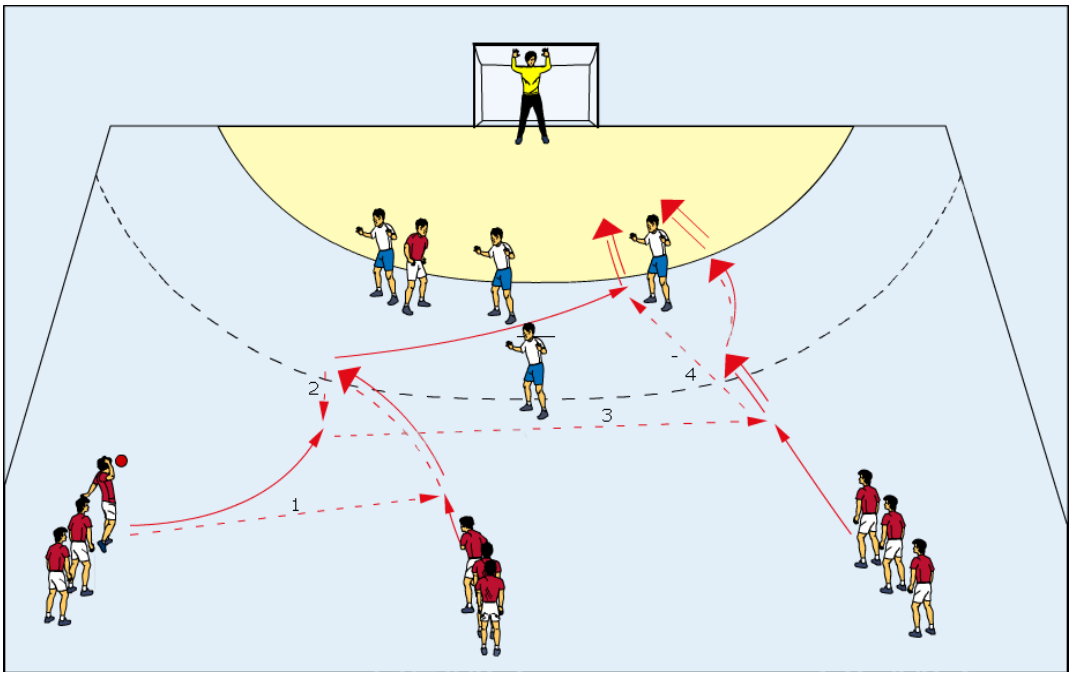

Figure 6:

Figure 6 shows the fifth step in the methodical procedure for learning and training combination No. 5.

(Bon, Pori and Šibila, 2006)

Play No. 6:

6 on one goal – defenders are positioned in playing positions characteristic of the 5:1 zone defence system. The CB (playmaker) communicates to the teammates, from which side they are to carry out the combination, and they also correctly position the LP. Because this case involves a numerically equal number of defence and attack players, the performance of the combination must be that much more precise and effective. We encourage the creativity of players in individual playing positions. Defenders perform their defence roles with slightly less intensity in order to facilitate the implementation (practice) of the envisaged combination. In this way, attackers have a somewhat easier choice in choosing their actions and carrying them out.

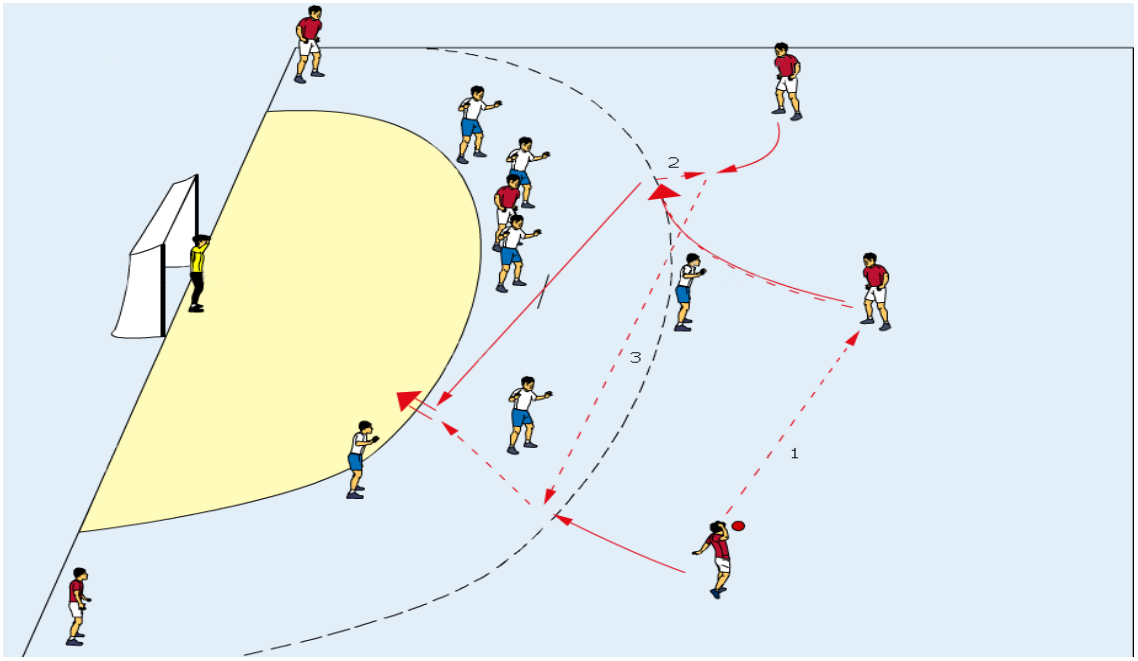

Figure 7:

Figure 7 shows the sixth step in the methodical procedure for learning and training combination No. 5. (Bon, Pori and Šibila, 2006)

Play No. 7:

6:6 system on one goal. The activity of the defending team now increases and defenders attempt to foresee and prevent the attacking activities of the opponents. The CB (playmaker) communicates to the teammates, from which side they are to carry out the combination, and they also correctly position the LP.

Each player included in the combination must fulfil a tactical role and always be in the position where they are able to score or pass to a teammate. We can also count the number of goals out of the number of attacks – competition between two groups.

Play No. 8:

6:6 system on two goals. In a 6:6 game, we repeat the play under competition conditions. A goal achieved with the described combination is worth two points. (Lipovšek, 2011)

5 WORKING METHODS

I applied the following methods in my thesis:

- the statistical method,
- the observation method (in training).

6 RESULTS AND DISCUSSION

The aim of the thesis was to present the selected tactical combination for an attack play against a formed defence and to describe the learning and training method.

The selected team combination was a combination suitable for an attack on the 5:1 zone defence formation. It was used by the Slovenian national team in the World Championships held in January of 2005 in Tunisia.

The example of the combination used in the Slovenia v. France game is presented below.

Figure 8:

In figure No. 8, we can see the initial positioning of defenders and attackers. The LP stood on the right side of the attack formation, i.e. between the second defender on the left and the centre back. On the opposite side, the 2nd right defender took the deep position towards the LB. The combination was based on the transition of the CB to the second LP and the subsequent engagement of the centre back on the left side of the attack formation. The CB thus crossed with the RB and immediately ran to the goal area line, behind the second right wing defender. The RB passed the ball to the LB (figures 8, 9, 10 and 11).

Figure 9:

Figure 10:

Figure 11:

The LB dribbled around the second right defender towards the centre and passed the ball to the RB who moved into a wide position (figures 10 and 11).

Figure 12:

After receiving the ball, the RB made a wide run-up between the 1st and 2nd left defenders (figure 12). Figure 12 clearly shows the error of the French defence formation, because the centre back was located too far to the right because of following the CB to the 2nd LP, while the 2nd left defender was engaged in covering the LP.

The CF and the 1st left wing defender attempted to remedy the error. After receiving the ball and running up to the goal, the RB performed their task correctly (engagement of the 1st left wing defender) as they passed to the RW attacker who was not covered by the defenders (figure 7). The RW stood in the correct position (slightly off from the sideline), which made it easier for RB to pass. Figure 8 shows the completion of the play with a shot.

(Ivezič, Mohorič and Šibila, 2005)

7 CONCLUSION

Handball players (both male and female) are becoming increasingly stronger and faster, and possess ever more technical and tactical knowledge. Hence, the game of handball is changing accordingly. Defence is increasingly being perfected, which is why our players need to be prepared more for the attack phase. Different combinations represent an upgrading of handball knowledge. Teams mostly use combinations when moves by individuals are unsuccessful.

I chose the combination that could be successfully applied against the 5-1 defence formation (as well as the 6-0 formation), which is evident from the photograph. This is just one of the many combinations that can be used against a formed 5-1 defence formation. We most frequently "break" such a defence formation by transitioning to the second LP, either the wing or the back player. Another way is the CR block of the centre front.

The method of attack, therefore, largely depends on the opponent's defence formation. The choice of combination and learning of the said combination depends on the team we are coaching. The implementation of a play is adjusted to the knowledge and ability of the players.

In order for the players whom we coach to develop and enhance their technical and tactical knowledge, it is important to provide for a variety of exercises (drills) in training as well as to ensure repetition and upgrading of the exercises. The players thus gain knowledge, experience and patience, which leads to improved playing on their part and to a higher level of playing the game. We should, therefore, only ask of the players to perform that which we have taught them in training.

8 SOURCES AND LITERATURE

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