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Importance of physical variables in hockey

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Abstract

Sport is good for not only external relaxation but inner satisfaction as well. There are a lot of factors which are responsible for better performance of the player. Among these factors, physical variables are quite significant for players. These physical variables include speed, agility, speed endurance etc.

A Hockey player has to concentrate on these physical variables so as to enhance their performance in the field. The current article highlights the importance of these physical variables in the performance of Hockey players.

Keywords: Hockey, Physical, Fitness, Performance.

Introduction

A player should be physically fit so as to perform better in the game of Hockey. Proper training is provided to the players to prepare them for the competition. Every nano-second is so important in sport. Any single mistake done by the player can affect the result of the match. So a player has to be active enough to perform much better when he/she comes in the ground for competitive match.

It is observed that some athletes have good muscular body that come from the rural background as compared to the urban ones. But, when they get selected for a competition, then they are provided with equal training sessions.

These training sessions are organized in order to make the players competitive and more concentration is given on physical variables such as speed, agility, endurance etc. A healthier diet plan full of essential nutrition is also followed by the players.

With the increase in level of competition, each player tends to do some physical activities. These physical activities make a player better and better with every passing training session. The coach staff also helps in getting the proper physical session.

Good performance in Hockey or any other game depends not only on level of competition but physical variables as well. Hockey is national game of India. Each physical variable is so important so as to perform better in the field of Hockey.

Importance of physical variables in Hockey

Physical variables comprise of physical structure and some characteristics like strength, speed and endurance etc. It can be said that physical fitness is a combination of motor abilities like strength, endurance, flexibility and coordinative abilities.

The following physical variables affect the performance of a player:-

- Speed • Agility • Speed Endurance • Arm Strength • Leg strength • Abdominal Strength

Speed and its importance

Speed of a Hockey player is so essential as it directly affects the performance of the player. Although, speed of a player can be enhanced by proper training session and practices. Speed is very important part in the life of a sports person.

With having proper speed abilities, a player cannot be adjudged perfect for the sports. Time plays a vital role in the perception of a game. Hence, proper speed ensures the better performance of the player. Also, speed is considered as an important part of physical fitness.

Speed of the Hockey player affects the performance. This game looks very interesting when each player possesses the excellent speed and passes the ball to other team mates quickly in the

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field. More the speed of the player, more is the performance. In other words, in the game of Hockey, the good performance of the player directly depends on the speed of the player i.e. how quickly the player is in passing the ball to other team mates.

Agility and its Importance

Agility is one of the important motor characteristics which plays a decisive role in physical performance related activities. Johnson and Nelson defined agility as the physical ability which enables an individual to rapidly change body position and direction in precise manner. Field hockey which has resemblance to football also demands a high degree of agility among the hockey players. Agility is measured in variety of ways such as shuttle run, side stepping, zig-zag run combination of forward sideways, backward runs etc.

Speed Endurance and its importance in Hockey

This is the ability to sustain a moderately strenuous physical activities such as long distance running / swimming / cycling lasting 45 seconds to 2 minutes. The 400 mtr sprint in track and field is classical example of speed endurance ability. This ability is highly dependent on power and capacity of glycolactic mechanism of energy production. The phosphogens (alactacid metabolism) also contribute significantly towards energy production glycolysis results in very high amount of lactic acid concentration in the muscles and as results is one of the dominant fatigue producing factors in such activities very high amount of oxygen debt is recorded in speed endurance activities.

A highly developed ability of muscles, to continue contracting with required and force, under high lactic acid contraction is a primary prerequisite for good performance in speed endurance activities. In activities which last upto 20-22 seconds the energy production is almost achieved by alactacid metabolism (i.e., splitting of ATP and CP).

Hockey is the game which is played for seventy minutes under normal circumstances, on a fast surface like gravel or synthetic surface where the ball will be hit back and forth at a very fast pace. Except the goal keeper the other players need to move up and down the field for the entire duration of the game. This calls for possession of the ability of sustenance involving heart and its vast net work of blood vessels together with the respiratory organs.

This ability in sports parlance is referred to as "Cardiovascular endurance or cardio respiratory endurance, or speed endurance or in simple term 'stamina'. There is another type of endurance where a particular pattern of movement is repeatedly performed which indicates the quality of the muscles to sustain an activity for a longer period which is called as 'Muscular Endurance'.

Endurance is very important because it develops the efficiency of the heart and lungs so that blood and oxygen supply to the working muscles is increased. This helps the muscles to function properly and remove lactic acid to avoid getting fatigued soon. Endurance is very important for hockey players as they need stamina to keep running for seventy minutes, frequently sprinting both with ball and without ball in the game. Muscular endurance is the capacity of the muscle to work for prolonged time without getting fatigue.

Arm strength and its importance in Hockey

Strength is a vital component in all games, especially in hockey. Both arm strength and leg strength are of paramount importance. Arm strength is the force that the shoulder griddle

and wrist muscles exert in one maximum effort. Arm strength may be defined as the capacity of a person to exert muscular force of the arm.

Performance of hockey players depends on the arm strength since it is only with stick the ball is played and the stick is held in the hand. Arm strength plays an important role in hockey for accurate and effective execution of skills. It is needed for pushing the ball hitting the ball, passing the ball to one's teammate, scooping the ball and scoring the goal.

Leg strength and its importance

Strength is a vital component in all games, especially in hockey. Both arm strength and leg strength are of paramount importance. Leg strength is the capacity of a person to exert muscular force of the leg. Performance of hockey players depends on the leg strength since they have to run, maintain control over the speed and to stay stable throughout the game. Leg strength plays an important role in hockey for accurate and effective execution of skills.

Abdominal strength and its importance

The abdominals are group of Muscles that rap around the core of the body's or trunks from which all movements originates. Abdominal providing strength and supports to the center of the body, which in turn allows one to walk, run and sit up rights. In other words abdominal muscles form the bond which hold the upper and lower body together.

In Sports demanding maximum movement through running and jumping mixes and variation, wise trainers declare 'when the leg tire, the chance of defeat loom large'. Most importantly, strong Abdominals reduce back injuries, most of which occur in everyday activities and sports actions in more so often to this risk.

While the leg often tire due to low basic strength and lack of muscular endurance to match the play duration, some time they are left-unsupported on account of weak abdominal muscles, knees refuse to lift, stride lengths fall and driving becomes slow motion. The abdominal muscles support lungs and 18 diaphragm and the stronger the muscle the easier and more efficient the breathing which is very important in sports. This in turn assists in all aspect of one's workout because the blood is oxygenated more quickly and blood can be moved to muscles more efficiently. To maximize the resistance on this group of muscles and activate the smaller muscles in structure, all sit up types of exercises should be performed with bent knees positions and not with leg set straight ahead.

Significance of the Study

1. The study may be helpful to know which session is better for physical ability among women hockey players playing at varied sessions.
2. The study may help to understand which session is better for hockey performance among women hockey players playing at varied sessions.
3. The study may be useful to know the difference among the women hockey players having different span of experience in their anxiety, physical and performance variables.
4. The study may also help to know the difference among the women hockey players having different status in their anxiety, physical and performance variables.
5. The study to know the difference among the women hockey players of different age group in their anxiety, physical and performance variables.
6. The implications of this study may be useful for the

players to set their own goals to ensure the better performance in field hockey.

7. The study may give an insight to the coaches, Physical Education Teachers, the team managers to decide which session is helpful for the better performance in field hockey; accordingly they can plan their programme.
8. The study may be helpful for the Sports organisers while organizing tournaments in field Hockey to select suitable session in which the better performance may be expected.
9. The study may provide useful information to the sports society to put a great deal of time and effort to enhance better achievement and putting more emphasis of scientific conditioning methods to accelerate development and optimize performance.

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