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Effect of plyometric training for development of agility among hockey players of Hyderabad district in Telangana state

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Abstract

The purpose of the present study to find out the effect of plyometric Training for the development of agility among Male Hockey Players of Hyderabad District. The sample for the present study consists of 40 Male Hockey Players of Hyderabad District between the age group of 16 to 20 Years out of which 20 are experimental group and 20 are controlled group. Plyometric Training were given to experimental group on alternate days i.e. three sessions per week and controlled group were given the general training for eight weeks. Pre Test and Post Test were conducted in T-Test Agility Run to measure the agility among experimental group and controlled group. This study shows that due to the Plyometric training there is a improvement of experimental group in agility and controlled group is decreased in agility.

Keywords: Plyometric training, agility, hockey players etc.

Introduction

Hockey is a field game played both men and women. Each team has 11 players, who use a stick with a hook which forms the head to hit the ball along the ground. The object of the game is to send the ball into the Opponent's goal wins. The team consists of 16 players. Hockey at any level is a thrilling game enjoyed by players of all ages. The vast majority play the game primarily for social reasons and do not normally have the opportunity for the sort of coaching that could significantly improve their individual skills and overall performance. Plyometric Exercises can help improve athletic performance among Hockey Players. It increases speed, power and agility.

Plyometric training is a specific exercise regime that is needed to develop muscles that contract maximally in the shortest possible time (Chu, 1992; Siff & Verkhoshansky, 1993) ^[4, 6]. Plyometric training is also defined as quick, powerful movements, which lead to the activation of the stretch-shortening cycle (Voight, Draovitch & Tippet, 1995) ^[8]. This training method was initiated about 30 years ago. The system of plyometric training, as a discrete training approach, can be applied effectively in most sports today (Grantham, 2004) ^[5]. Plyometrics is a valid and viable training method to develop muscular strength, speed and explosive power. One principle factor in plyometric training is that the nervous system is trained to respond to stimuli and to improve neuromuscular skills and muscular strength coordination (Blazevich, 2003; Brown, Mayhew & Boleach, 1986) ^[1, 3].

Speed and burst strength are essential qualities for hockey players. While there are a number of drills tailored to developing speed, the Sports Fitness Advisor website notes, the chief deciding factor of a person's speed and quickness is body strength. By combining a basic strength-training regimen with burst workouts involving plyometrics, practically any hockey player can see improvements in his power, quickness and overall speed.

The Hockey Plyometrics website recommends practicing the forward fall to help increase the quickness and burst strength of your quadriceps and calves. Begin the forward fall by standing with your feet shoulder-width apart and your hands resting on your hips so that your elbows point out to your sides. Let your body fall forward and catch yourself by extending your right leg and bending your right knee so that you land in a wide lunge stance. Push yourself off the floor as quickly as you can while remaining stable and repeat until both legs have been pushed 10 times.

The agility test is designed to measure the ability of the players to accelerate and change direction from a vertical plain to moving in a horizontal plain (Bloomfield *et al.*, 1994) ^[2]. In this specific test the player is tested on power, speed explosiveness and agility.

Lateral, forward and backward acceleration is tested. The prime movers play a very important role, but the adductor, abductor and stabilizers are also being taxed (Siff & Verkhoshansky, 1993) [6].

The purpose of the present study to find out the effect of plyometric Training for the development of agility among Male Hockey Players of Hyderabad District.

Material and Methods

The sample for the present study consists of 40 Male Hockey Players of Hyderabad District between the age group of 16 to 20 Years out of which 20 are experimental group and 20 are controlled group. Plyometric Training were given to experimental group on alternate days i.e. three sessions per week and controlled group were given the general training for eight weeks.

Showing the Sample of the Study

Sl. No.	Category of the subjects	Number of subjects
1.	Experimental group	20
2.	Control group	20
3.	Hockey players	40

Plyometric exercises such as hopping, bounding, depth

jumps, tuck jumps, Pushups etc were given to experimental group on alternate days i.e. three sessions per week and controlled group were given the general training for eight weeks.

The following are the plyometric exercises were given three times a week for eight weeks to the experimental group of Hockey Players.

Sl. No	training exercises	Sl. No	training exercises
1.	Hopping	6.	Squats Jumps
2.	Bounding	9.	Side ward bend
3.	Push Ups	10.	Heel raising with weights
4.	Depth Jumps	11.	Tuck Jumps
5.	Hurdle Jumps	12.	Double leg Jumps

Data Collection

Pre Test and Post Test were conducted in T-Test Agility Run to measure the agility among experimental group and controlled group

Results and Discussion

This study shows that due to the Plyometric exercises there is a improvement of agility among the experimental group of Hockey Players and controlled group are not shown any significant difference due to the general training of Hockey

Table 1: Mean values of T- Agility Test between experimental and control groups of Hockey Players

Variables	Group	Pre Test Mean \pm SD	Post Test Mean \pm SD	T	P - Value
T-Agility Test	Experimental	11.08 \pm 0.27	10.00 \pm 0.32	26.246	0.000*
	Control	11.22 \pm 0.258	11.21 \pm 0.298	-0.389	0.702

*Significant at 0.05 level

In Table –I the Mean Values in T-Agility Test of Experimental Group is 11.08 and Control Group is 11.22 in Pre Test and Post Test is Experimental Group is 10.00 and Control Group is 11.21. The Experimental Group has decreased from 11.07 to 10.00 in mean values due to Physical Exercises Training in Agility compare the Control group mean is 11.22 in post test due to general training.

Conclusion

It is concluded that the Physical fitness is a prime asset and players must possess strength, endurance, speed, good reflexes, ability, suppleness and controlled weight, all these attributes can be acquired only by constant year round practice. A fit man is one who is well adjusted to his environment, whose mind and body are in harmony and who can make the normal demands made on his both mentally and physically without on due fatigue. According to the results, it can be concluded that plyometric and resistance-training exercises were effective in increasing agility and explosive power and reducing sprint time in hockey players. Plyometric exercises had more favorable effects on the study variables. So these training methods are recommended to players and coaches for improving speedy and skilled performances.

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