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## Effect of Six Weeks Training on Penalty Stroke Performance among Hockey Players

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### Abstract

The purpose of the study was to compare the Effect of six week training on penalty stroke performance among hockey players. To fulfill the objective of the study, total of 21 boys Hockey players of M.D.N school, Rohtak age ranged between 14-18 years was selected. The self developed scoop ability test was conducted, which include Drill-1 and Drill-2 for analyzing the collected data Descriptive statistical technique and to find out the effect of the training on penalty stroke performance level, paired 't' test was employed.

**Keywords:** Penalty stroke, Hockey, Stroke performance, Scoop ability.

### 1. Introduction

A penalty stroke (often referred to as a PS, a flick, or just as a stroke) is awarded when defenders commit a deliberate foul in the circle (also known as the 'D') which deprives an attacker of possession or the opportunity to play the ball, when any breach prevents a probable goal, or if defenders repeatedly "break" or start to run from the back line before a penalty corner has started. The penalty stroke is taken by a single attacker in the circle (all other being beyond the 23m line), against the goalkeeper, and is taken from a spot 6.4 m out, central and directly in front of the goal. The goalkeeper must stand with feet on the goal line, and cannot move them until the ball is played, whilst the striker must start behind the ball and within playing distance of it (in other words he must be able to touch the ball with his stick). On the umpire's whistle, the striker may push or flick the ball at the goal and goalkeeper attempts to make a 'save'. The attacker is not permitted to play the ball more than once, to fake or dummy the shot, or to move towards or interfere with the goalkeeper once the shot is taken. Hitting or dragging the ball is also forbidden. If the shot is saved, play is restarted with a 15 m hit to the defenders. When a goal is scored, play is restarted in the normal way. If the goalkeeper commits a foul which prevents a goal being scored, for example, preventing a goal with the back or rounded part of his stick, a penalty goal may be awarded; for other fouls by defenders, the result is normally that the stroke is retaken. If the taker commits a foul, it is treated as if the stroke has been saved, and play recommences with a 15 m hit. If another attacker commits a foul, then if a goal is scored it is voided, and the stroke retaken.

### Objectives of the Study

The objective of this study was to assess out the effect of 6 weeks specific training on penalty stroke performance of Hockey players.

### Procedure and Methodology

The present investigation was conducted on the total of 21 boys Hockey players of M.D.N school, Rohtak age ranged between 14-18 years, randomly selected for the present study with their prior consent to act as subject for the study. The self developed scoop ability test was conducted, which include Drill-1 and Drill-2. For analyzing the collected data Descriptive statistical technique and to find out the effect of the training on penalty stroke performance level, paired 't' test was employed.

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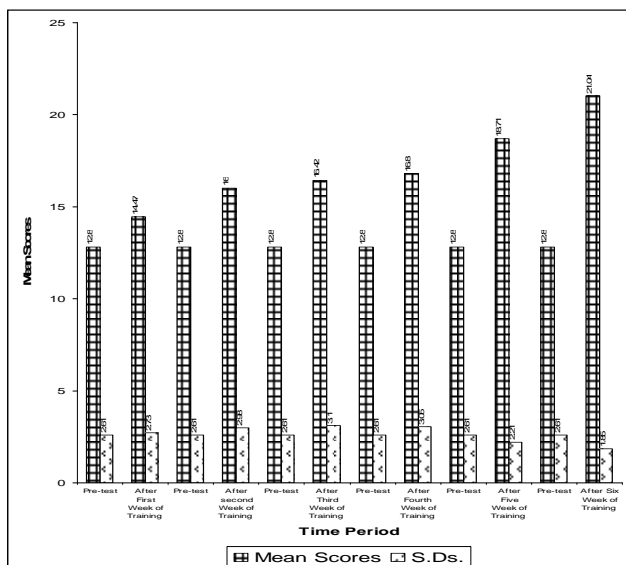
**Analysis of the Data and Discussion**

**Table 1:** Mean difference between pretest and post test of Drill 1 after first to six week training

Sr. No.	Group	N	Mean Scores	S.D's	t-value
1.	Pre-test	21	12.80	2.61	2.018*
	After First Week of Training	21	14.47	2.73	
2.	Pre-test	21	12.80	2.61	3.68**
	After second Week of Training	21	16.00	2.98	
3.	Pre-test	21	12.80	2.61	4.08**
	After Third Week of Training	21	16.42	3.10	
4.	Pre-test	21	12.80	2.61	4.55**
	After Fourth Week of Training	21	16.80	3.05	
5.	Pre-test	21	12.80	2.61	7.88**
	After Five Week of Training	21	18.71	2.21	
6.	Pre-test	21	12.80	2.61	11.75**
	After Six Week of Training	21	21.04	1.85	

\*\*Significant at 0.01 level  
 \* Significant at 0.05 level  
 Table Value at 0.01 level 2.58  
 0.05 level 1.96

Table 1 shows that 't' ratio (2.018) for the mean scores between pretest and post test of Drill 1 after first week training is more than the table value at 0.05 level which is significant at 0.05 level of significance. It means that there exists significance of difference between the pre-test and post-test scores of Drill-I after first week of training. So it was found that there is a significant difference between the pre-test and post-test scores of Drill-I after first week of training.



**Fig 1:** Mean difference between pretest and post test of Drill 1 after first week training

The table further shows that 't' ratio (3.68) for the mean scores between pretest and post test of Drill 1 after second week training is more than the table value at 0.01 level which is significant at 0.01 level of significance. It means that there

exists significance of difference between the pre-test and post-test scores of Drill-I after second week of training. So it was found that there is a significant difference between the pre-test and post-test scores of Drill-I after first week of training.

The table further shows that 't' ratio (4.08) for the mean scores between pretest and post test of Drill-I after third week training is more than the table value at 0.01 level which is significant at 0.01 level of significance. It means that there exists significance of difference between the pre-test and post-test scores of Drill-I after third week of training. So it was found that there is a significant difference between the pre-test and post-test scores of Drill-I after third week of training.

The table also shows that 't' ratio (4.55) for the mean scores between pretest and post test of Drill-1 after fourth week training is more than the table value at 0.01 level which is significant at 0.01 level of significance. It means that there exists significance of difference between the pre-test and post-test scores of Drill-I after fourth week of training. So it was found that there is a significant difference between the pre-test and post-test scores of Drill-I after third week of training.

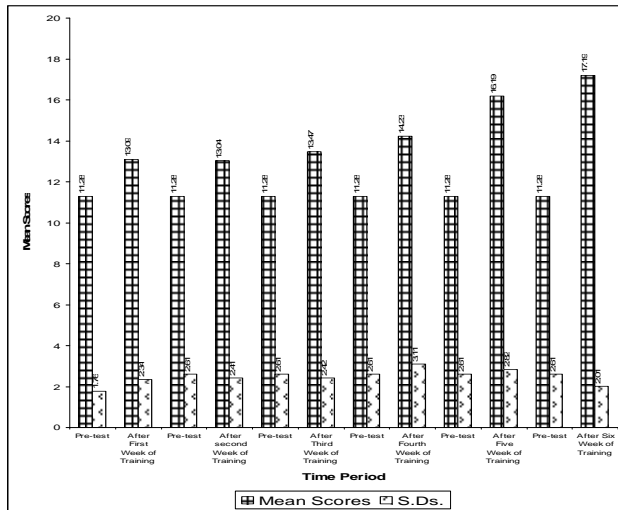
The table also shows that 't' ratio (7.88) for the mean scores between pretest and post test of Drill-I after fifth week training is more than the table value at 0.01 level which is significant at 0.01 level of significance. It means that there exists significance of difference between the pre-test and post-test scores of Drill-I after fifth week of training. So it was found that there is a significant difference between the pre-test and post-test scores of Drill-I after fifth week of training.

The table also shows that 't' ratio (11.75) for the mean scores between pretest and post test of Drill-1 after sixth week training is more than the table value at 0.01 level which is highly significant at 0.01 level of significance. It means that there exists significance of difference between the pre-test and post-test scores of Drill-I after sixth week of training. So it was found that there is a significant difference between the pre-test and post-test scores of Drill-I after sixth week of training.

**Table 2:** Mean difference between pretest and post test of Drill- II after first to six week training

Sr. No.	Group	N	Mean Scores	S.D's	t-value
1.	Pre-test	21	11.28	1.76	2.82**
	After First Week of Training	21	13.09	2.34	
2.	Pre-test	21	11.28	2.61	2.69**
	After Second Week of Training	21	13.04	2.41	
3.	Pre-test	21	11.28	2.61	3.35**
	After Third Week of Training	21	13.47	2.42	
4.	Pre-test	21	11.28	2.61	3.78**
	After Fourth Week of Training	21	14.23	3.11	
5.	Pre-test	21	11.28	2.61	6.75**
	After Fifth Week of Training	21	16.19	2.82	
6.	Pre-test	21	11.28	2.61	10.10**
	After Six Week of Training	21	17.19	2.01	

\*\*Significant at 0.01 level  
 Table Value at 0.01 level 2.58  
 0.05 level 1.96



**Fig 2:** Mean difference between pretest and post test of Drill- II after first week training

The Table shows that 't' ratio (2.82) for the mean scores between pretest and post test of Drill-II after first week training is more than the table value at 0.01 level which is significant at 0.01 level of significance. It means that there exists significance of difference between the pre-test and post-test scores of Drill-II after first week of training. So it was found that there is a significant difference between the pre-test and post-test scores of Drill-II after first week of training.

The table further shows that 't' ratio (2.69) for the mean scores between pretest and post test of Drill-II after second week training is more than the table value at 0.01 level which is significant at 0.01 level of significance. It means that there exists significance of difference between the pre-test and post-test scores of Drill-II after second week of training. So it was found that there is a significant difference between the pre-test and post-test scores of Drill-II after first week of training.

The table further shows that 't' ratio (3.35) for the mean scores between pretest and post test of Drill-II after third week training is more than the table value at 0.01 level which is significant at 0.01 level of significance. It means that there exists significance of difference between the pre-test and post-test scores of Drill-II after third week of training. So it was found that there is a significant difference between the pre-test and post-test scores of Drill-II after third week of training.

The table also shows that 't' ratio (3.78) for the mean scores between pretest and post test of Drill-II after fourth week training is more than the table value at 0.01 level which is significant at 0.01 level of significance. It means that there exists significance of difference between the pre-test and post-test scores of Drill-II after fourth week of training. So it was found that there is a significant difference between the pre-test and post-test scores of Drill-II after third week of training.

The table also shows that 't' ratio (6.75) for the mean scores between pretest and post test of Drill-II after fifth week training is more than the table value at 0.01 level which is significant at 0.01 level of significance. It means that there exists significance of difference between the pre-test and post-test scores of Drill-II after fifth week of training. So it was found that there is a significant difference between the pre-test and post-test scores of Drill-II after fifth week of training.

The table also shows that 't' ratio (10.10) for the mean scores between pretest and post test of Drill-II after sixth week training is more than the table value at 0.01 level which is

highly significant at 0.01 level of significance. It means that there exists significance of difference between the pre-test and post-test scores of Drill-II after sixth week of training. So it was found that there is a significant difference between the pre-test and post-test scores of Drill-II after sixth week of training.

### Conclusion

Finding revealed that the 6 weeks training given to the 21 subject (Hockey players) of M.D.N School of age group (14-18), was found to be significant at 0.05 level in Drill 1 and Drill 2. The result revealed that the 6 week training given to them was very effective in Drill 1 and Drill 2. Hence the following conclusions were made:

Reliability was found to be good & effective in Drill 1 and Drill 2

In Drill 1 and Drill 2, the difference between pre and post test was found to be significant.

Drill 1 and Drill 2 was proved to be a measure for the penalty stroke's in field Hockey

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