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## Comparative study of selected motor ability variables between pivot and goalkeeper handball players

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### Abstract

The aim of the study was to find out the significant difference of selected Motor Ability between Pivot and Goalkeeper Handball Players. For present study total 80 (40 Pivot and 40 Goalkeeper) male Handball players selected and the age of subjects. The study was confined to All India Inter University Championship and Senior National level Handball Championship participated players were selected as a subject. For this study these Motor Ability variables are selected: Speed, Agility and Explosive Strength. After collecting the relevant data descriptive statistic and t test was applied. The level of significance was set at 0.05. The outcome of the study shows that insignificant differences of all Motor Ability variables between Pivot and Goalkeeper Handball Players.

**Keywords:** Motor ability, speed, agility and explosive strength

### Introduction

Anthropometric characteristics of the high quality senior male handball players in relation to their basic playing positions (back court player, wing attack players, pivot players and goal keeper). (Dook, *et al.* 1997) [1].

The wing and pivot players are more homogeneously grouped than the back players and especially the goalkeepers. In other words the line players, pivot in particulars, have more common anthropometric characteristic than the back players and the goal keepers (Srhoj, 2002) [2].

The goalkeeper are characterized by the lowest agility and a better flexibility level, mainly in the pelvis joint in relation to the rest playing positions. The wings have a more developed level of power and agility in relation to the goalkeeper and pivot. The back players differ from the goalkeeper and pivot in pelvis flexibility and agility. The pivots have the lowest values for the meter ability of wrist flexibility and agility and at all playing positions having a bigger difference from the wings. (Oxyzoglou, *et al.* 2008) [4].

The study demonstrates that a number of differences in anthropometric and physical fitness characteristics exist between playing positions. Back players are the tallest, with a greatest arm span, palm opening and palm lengths. Wings players are the shortest with the least height and the lowest BMI (Body mass index) and smallest palm openings and palm length among all players. Wing players showed best performance in broad jump, 30 m sprint and VO<sub>2</sub>max. Back players achieved the highest values in ball throwing; speed, while goal keepers were the lowest. Goalkeepers underperformed in relation to all motor abilities compared to all other playing positions. The specific playing position of goalkeeper required special training which will be different than for the other positions and should not be neglected by the trainers who, as shown by the results above, usually favor other positions (Zapartidis, 2009) [3].

### Procedure and methodology

For achieving the purpose of the study total 80 (Pivot and 40 Goalkeeper) male Handball players selected and the age of subjects. The study was confined to All India Inter University Championship and Senior National level Handball Championship participated players were selected as a subject. For this study these Motor Ability variables are selected: Speed, Agility and Explosive Strength.

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### Statistical Analysis

For statistical analysis 't' test was applied and the level of significance set at 0.05.

### Results

**Table 1:** Display the descriptive statistic and t value of Motor Ability variables: Speed, Agility and Explosive Strength between Right and Left wing male Handball Players

Variable	Group	Mean	Std. Deviation	t-value
Speed(sec)	Pivot	4.16	0.04	1.6175
	Goalkeeper	4.38	0.13	
Agility(sec)	Pivot	9.17	0.03	0.4216
	Goalkeeper	9.13	0.09	
Explosive Strength (cm)	Pivot	31.578	.891	0.2332
	Goalkeeper	31.248	1.099	

't'<sub>0.05(78)</sub> = 1.9908

Table 1: shows the Mean and SD values of Speed between Pivot and Goalkeeper male Handball Players were 4.16 ±0.04 and 4.38 ±0.13 respectively. The obtained "t" value 1.6175 (1.9908) was found statistically insignificant, at.05 level of significance.

Table represents that Mean and SD values of Agility between Pivot and Goalkeeper male Handball Players were 9.17 ±0.03 and 9.13 ±0.09 respectively. The obtained "t" value 0.4216 (1.9908) was found statistically insignificant, at.05 level of significance.

Table represents that Mean and SD values of Explosive Strength between Pivot and Goalkeeper male Handball Players were 31.578 ±.891 and 31.248 ±1.099 respectively. The obtained "t" value 0.2332 (1.9908) was found statistically insignificant, at.05 level of significance.

### Conclusion

- The results validate that, insignificant differences were found in speed variable between Pivot and Goalkeeper male Handball Players.
- The results substantiate that, insignificant differences were observed between Pivot and Goalkeeper male Handball Players for their Agility variable.
- The result authenticated that, there were insignificant differences between Pivot and Goalkeeper male Handball Players for their Explosive Strength variable.

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