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Importance of crouch start techniques among sprinters for development of speed: A study

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Abstract

The purpose of the study is to find the difference in speed among Medium Start and Elongated Start in Sprints. The sample for the present study consists of 50 Male Sprinters of Hyderabad District between the age group of 16 to 18 Years. The 50 M Run is used to assess the speed in Medium Start and Elongated. The 50 M Run Test is conducted in Medium Start in crouch position with the Starting Blocks for 25 Male Sprinters and on next day another 25sprinters in Elongated start position by the Qualified Technical Officials. The results of the study shows that in Medium start timing is faster than the Elongated start in 50 M. Sprinters use blocks to achieve an explosive start in competitive events. By using the starting blocks, the sprinters can assume a sloping body position, which lifts your centre of gravity and helps you to reach maximum velocity in the shortest period of time. The blocks also abbreviate the distance between your start position and a correct and balanced running gait. It is concluded that medium start is faster in speed compare to the elongated t start. Hence it is recommended medium start is good for sprinters to enhance the performance.

Keywords: Medium start, elongated start, sprinters etc.

Introduction

Starting Blocks are used for all competition sprint (up to and including 400 m) and relay events (first leg only, up to 4x400 m). The starting blocks consist of two adjustable footplates attached to a rigid frame. Races commence with the firing of the starter's gun. The starting commands are "On your marks" and "Set". Once all athletes are in the set position, the starter's gun is fired, officially starting the race. For the 100 m, all competitors are lined up side-by-side. For the 200 m, 300 m and 400 m, which involve curves, runners are staggered for the start.

Crouch Start

Sprint starts are very commonly used in athletics ranging from sprints to a number of middle and long distance events. The two main variations are the standing and the crouch start which are used for middle or long distance events and sprints respectively. The crouching start is where when the gun shooter says "On your Mark" you stand in front of your line and you bend down and put your hands right under the line never above or you will get disqualified. Then when they say "Get set" You lean forward and put your butt in the air (not to much and not to little).

There are three types of sprint starts

- **Bunch or Bullet start:** The toes of the rear foot are approximately level with the heel of the front foot and both feet are placed well back from the starting line.
- **Medium start:** The knee of the rear leg is placed opposite a point in the front half of the front foot.
- **Elongated start:** The knee of the rear leg is level with or slightly behind the heel of the front foot.

Mahipal (2015) ^[1] compare the speed in crouch start (medium) and standing start among 4 x 100 meter relay runners. For the purpose of the study 28 male state level 4 x 100 meter relay

runners who have participated in first Haryana state senior Athletics Championship held at District Panipat in January 2015 were randomly selected as the subjects for this study. The age of the selected subjects ranged from 18-22 years. 50 meter run test is used to collect the data for speed. The 28 male relay runners are made to run 50 meter run first in crouch start medium with the use of starting block in medium start position and on the next day, all 28 relay runners are made to run 50 meter run in standing start position. The data was collected in the evening at 4:30 pm to 7:30 pm at Shivaji stadium, Panipat. To find out the significant difference in the speed variable t test was applied and the level of significance was set at 0.05 levels. The results of the study shows that crouch start medium timing is faster and better as compared to standing start timing in 50 m. run. It is recommended that athletic coaches must given regular crouch start (medium) to their trainees for excellent results in Relay races/ sprint events.

Adarsh Goswami (2017) [2] studied Comparison of Speed in Medium Start and Bullet Start among the Sprinters of Hyderabad District of Telangana State the 50 M Run Test is conducted in Medium Start group and Bullet Start Group in crouch position with the Starting Blocks by the Qualified Technical Officials.

Results

The results of the study shows that in Medium start timing is faster than the Bullet start in 50 M.

Materials and Methods

The purpose of the present study to find out the speed in medium crouch start and elongated crouch start among sprinters of Hyderabad District. The sample for the present study consists of 50 Male sprinters of Hyderabad District between the age group of 17 to 20 Years has taken for the study. The 50 M Run is used to assess the speed in Medium start and Elongated Start among sprinters. The sprinters includes 100 M Sprinters, 200 M Sprinters, 400 M Sprinters, 110 M Hurdlers and 400 M Hurdlers those who are doing Practice at different centres in Hyderabad the 50 M Run Test is conducted in Medium Start in crouch position with the Starting Blocks for 25 Male Sprinters and on next day another 25sprinters in Elongated start position by the Qualified Technical Officials.

Results and Discussion

The results of the study shows that in medium start timing is faster than the elongated start timing in 50 M Run.

Table 1: Showing the Mean, S.D, Standard Error, t-ratio of Sprinters in Medium crouch start and Elongated Crouch Start in 50 Meters Run

Results of 50 M Run Test	N	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
Elongated Start	25	6.90	0.49	0.12	2.24	48.00	0.03
Medium Start	25	6.58	0.24	0.06			

The Sprinters bullet start crouch performance in 50 M Run is 6.90 and Standard Deviation is 0.49 and Sprinters medium Start mean performance in 50 M Run is 6.58 and Standard Deviation is 0.24. The sprinters in medium crouch start are having the better speed i.e. 6.58 compare the sprinters in bullet start is 6.90.

Conclusions

It is concluded that Medium Crouch Start is having better speed and advantage in Sprints compare to the elongated start. All Elite sprinters all over the world uses Medium Crouch Start for getting the higher speed in Sprints and to gain the maximum acceleration to reach the top speed. It is concluded that medium start is faster in speed compare to the elongated start.

Recommendations

It is recommended that similar studies can be conducted in among women athletes.

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