



ISSN: 2456-0057  
IJPNPE 2022; 7(2): 39-40  
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[www.journalofsports.com](http://www.journalofsports.com)  
Received: 19-05-2022  
Accepted: 28-06-2022

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## Effect of agility ladder training on aerobic endurance and anaerobic endurance among football players

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### Abstract

The purpose of the study was to assess the effect of agility ladder training on aerobic endurance and anaerobic endurance among football players. To achieve the purpose of the study, thirty college football players from Aditanar Educational Institutions, Tiruchendur, Tuticorin, Tamil Nadu, India were selected as subjects. They have participated in the intercollegiate tournaments for their respective, affiliated university of Manonmaniam Sundaranar University intercollegiate football tournaments and Tamil Nadu Physical Education and Sports University intercollegiate football tournaments. Their age ranged from 18 to 25 years. The thirty subjects were divided into two groups of fifteen (15) subjects each. Group I underwent Agility Ladder Training (ALT), group II acted as control they did not participating any activities. Experimental group have training programmes for 12 weeks consisting of 60 morning sessions in addition to their regular programmes in their curriculum design. For that purpose, the aerobic endurance and anaerobic endurance selected as dependent variables for this study. Aerobic endurance and anaerobic endurance was assessed by yo-yo intermittent recovery test and 300 yard shuttle test. Since no effort was taken to pair the groups in any way and therefore to eliminate the variation in pre-test mean. Analysis of Covariance (ANCOVA) was applied as statistical tool for the present study. Significant at 0.05 level of significance. The data were examined by applying SPSS measurable package in the computer. The results of the study shows that Agility Ladder Training group have improved their aerobic endurance and anaerobic endurance compared with control group.

**Keywords:** Agility ladder training, aerobic endurance, anaerobic endurance and football

### Introduction

A 16 foot distance is covered by an agility ladder made of 18 inch squares. The dimensions, length, and materials of the ladder and the squares are all open to interpretation. Ladder's physical composition is also unimportant. Any representation of the ladder on the ground will do. Actual ladder is advised since the presence of something impeding on the ground will make athletes more vigilant and accurate.

Agility Ladder workouts are a fun and effective way to teach development skills. For athletes, combinations of lateral and linear movement are quite alluring since they are biomechanical. By teaching the body and mind to value ample foot combinations, error can be decreased. Having perfected error-free foot movement essential, before the advancement of the drill to the next level.

The game soccer induced an expression of excitement and sensation unequalled within the dominion of sport. Soccer is a common language among peoples of varied environment and inheritance, a bridge that distance profitable, supporting, educational, and spiritual obstruction known as "football" throughout most of the world, soccer is the national sport of nearly every country in Asia, Africa, Europe, and South America.

### Statement of the problem

The purpose of the study was to assess the effect of agility ladder training on aerobic endurance and anaerobic endurance among football players.

### Methodology

To achieve the purpose of the study, thirty college football players from Aditanar Educational

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endurance selected as dependent variables for this study. Aerobic endurance and anaerobic endurance was assessed by Yo-Yo intermittent recovery test and 300 yard shuttle test.

### Analysis of data

Analysis of Covariance (ANCOVA) was applied as statistical tool for the present study. Significant at 0.05 level of significance. The data were examined by applying SPSS measurable package in the computer. The pre and post test data collected from the experimental and control groups on cardio respiratory endurance and muscular strength endurance were statistically analyzed by dependent 'T' test and the results are presented in table-I.

**Table 1:** Shows the variable name group name agility ladder training group control group and f ratio

Variable Name	Group Name	Agility Ladder Training Group	Control Group	F ratio
Aerobic Endurance	Pre-test Mean $\pm$ S.D	53.368 $\pm$ 2.58	53.218 $\pm$ 2.62	0.281
	Post-test Mean $\pm$ S.D.	55.298 $\pm$ 2.54	53.276 $\pm$ 2.64	08.56*
	Adj. Post-test Mean $\pm$ S.D.	54.968	53.198	41.15*
Anaerobic Endurance	Pre-test Mean $\pm$ S.D	43.012 $\pm$ 1.12	43.015 $\pm$ 1.05	0.717
	Post-test Mean $\pm$ S.D.	46.214 $\pm$ 1.25	43.056 $\pm$ 1.03	8.93*
	Adj. Post-test Mean $\pm$ S.D.	45.826	43.036	55.25*

\* (The required table value for significance at 0.05 level of confidence with degrees of freedom 1 and 27 is 4.21 and degree of freedom 1 and 28 is 4.20.)

\* Significant at .05 level of confidence

The obtained 'f' ratio value is 08.56 of aerobic endurance was greater than the required table value of 4.21 for the degrees of freedom 1 and 27 at 0.05 level of confidence. Hence it was concluded that due to the effect of twelve weeks of agility ladder training improved aerobic endurance of the subjects was significantly.

The obtained 'f' ratio value is 08.93 of anaerobic endurance was greater than the required table value of 4.21 for the degrees of freedom 1 and 27 at 0.05 level of confidence. Hence it was concluded that due to the effect of twelve weeks of agility ladder training improved anaerobic endurance of the subjects was significantly.

### Conclusions

Based on the results of this study the following conclusions were drawn by the investigator It was concluded that the selected criterion variables such as aerobic endurance and anaerobic endurance were significant difference between agility ladder training group and control group of men footballers.

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