# A Study of Anaerobic Power and Capacity of Football Players

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**Abstract**

The purpose of this study was to observe and report anaerobic power and capacity of football players. The design of this study required participants to perform six sprints each of 35 meter. Thirty six (N=36) male football players between the ages of 17 and 28 years volunteered for this study. The mean age, height and weight of football players was 21±2year, 172±6.81cm and 67.50±9.94Kg respectively. The mean sprint time of 1st,2nd,3rd,4th,5th and 6th sprint of football players was 5.50±0.39 seconds, 5.50±0.55 seconds, 5.57±0.56 seconds, 5.78±0.55 seconds, 5.83±0.59 seconds and 5.88±0.62 seconds respectively. The mean power generated during the 1st, 2nd, 3rd, 4th, 5th and 6th sprints by football players was 506.94±119.65 watts, 522.58±165.63 watts, 490.64±134.88 watts, 443.72±137.38 watts, 438.17±132.76 watts and 422.22±130.16 watts respectively. The maximum power, minimum power, average power and fatigue index of football players was 579.94±147.78watts, 376.00±111.66watts, 470.78±114.76watts and 6.00±3.45 respectively. It was concluded from the results of this study that sprint time increased, power declined with a high fatigue index, the football players may need to focus on improving lactate tolerance and this could be a focus of their training programme.

**Key Words: Sprint time, Power, Anaerobic, Fatigue index**

## Introduction

However, often we think of football as a chiefly aerobic sport but in reality, it is the contrary *(Derek Arsenault, 2007).* When the sport of football activity is critically analysed, it can be understood that the game is played by the players performing at varying speeds and intensities; jogging, walking and sprinting. The greater part of play is in intervals and the motion does not last for long periods of time (e.g. chasing a lose ball, making a run into space etc.). This is the most significant factor to consider when doing football conditioning. There certainly is a need for aerobic conditioning as well, due to the fact that the intervals mentioned are repeated at various intensities and durations over the course of a ninety minute match. On the other hand, because of the nature of the sport, anaerobic conditioning should take up the majority of the cardiovascular conditioning *(Derek Arsenault, 2007).* The high level of the anaerobic capacities in football players enable them to carry out high-speed runs, which in the end may have a very important impact on match results *(Luhtanen, 1994).* Elite football players are capable of performing more high-intensity running than moderate professional football players. The players spend 1–11% of the game sprinting *(Bangsbo et al., 1991; Bangsbo 1992)*, which represents 0.5–3.0% of effective

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