

Age Changes in the Speed of Running during 30 meter Sprint Running

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Abstract

The purpose of the present study was to determine age changes in various biomechanical variables such as stride length, stride rate and 30m sprint performance in boys from age 8 to 16 years. The speed of running in general exhibit a general trend of increase with age as well as with the course of running. Phase by phase analysis of change in speed during the course of running in 8 to 12 years age groups reveal that increase in the speed of the running from one phase to the next is mainly brought about by increase the stride length while increase in stride frequency are used by the subjects in varying manners.

Key Words: Stride Rate, Flight Time, Contact Time, Stride Cycle, Age Changes

Introduction

Review of studies in general suggests a comprehensive analysis of strength, spatial and temporal characteristics of adult sprinters (*Mann & Hagy, 1980; Mann & Herman, 1985; Adellar, 1986; Mann, 1986; Mero, 1988; Chelly & Denis, 2001*). There seems to be a void regarding such evaluation in boys during growth period. Such attempts are necessary in view of the recent emphasis to catch the athlete at young age and provide scientifically oriented training backup. It is unfortunate that despite poor record of India in various international competitions the requisite attention on these lines has not been paid. In order to keep pace with the global trends, for spotting sports talent at young age and develop it, and also orient the training programme on scientific basis for the full realisation of sporting talent, the present study has therefore been conducted to report age changes in biomechanical correlates of sprint running in boys from age 8 to 16.

Materials and Methods

The present investigation was conducted on 180 male school going boys of Patiala district and were divided into 9 yearly age groups (N=20 in each age group) as per *Weiner and Lourie (1981)*. To measure speed and stride characteristics during running, 30m sprint test was administered to each subject on a sandy track and cinematographic recording was done by a video movie camera (Panasonic) running at 60 frames/sec. Recording of video film was analysed on high quality Panasonic playback system. Contact time, flight time, stride length, stride rate and total time of 30m run time were measured for the analysis. For the purpose of analysis the first twenty strides taken by the subjects for running 30m sprint have been divided into four phases viz phase 1 (P 1), phase 2 (P 2), phase 3 (P 3) and phase 4 (P 4) respectively. Each phase comprised of five strides.

Results & Discussion