

Analysis of Motor Nerve Conduction Velocity (MNCV) of Selected Nerves in Athletics

Authors : Jogbinder Singh Soodan, Ashok Kumar, Gobind Singh

Abstract : Background: This study aims to describe the motor nerve conduction velocity of selected nerves of both the upper and lower extremities in athletes. Thirty high-level sprinters (100 mts and 200 mts) and thirty high level distance runners (3000 mts) were volunteered to participate in the study. Method: Motor nerve conduction velocities (MNCV) of radial and sural nerves were recorded with the help of computerized equipment, NEUROPERFECT (MEDICAID SYSTEMS, India), with standard techniques of supramaximal percutaneous stimulation. The anthropometric measurements taken were body height (cms), age (yrs) and body weight (kgs). The neurophysiological parameters taken were MNCV of radial nerve (upper extremity) and sural nerve (lower extremity) of both sides (i.e. dominant and non-dominant) of the body. The room temperature was maintained at 37 degree Celsius. Results: Significant differences in motor nerve conduction velocities were found between dominant and non-dominant limbs in each group. The MNCV of radial nerve was obtained was significantly higher in the sprinters than long distance runners. The MNCV of sural nerve recorded was significantly higher in sprinters as compared to distance runners. Conclusion: The motor nerve conduction velocity of radial nerve was found to be higher in sprinters as compared to the distance runners and also, the MNCV for sural nerve was found to be higher in sprinters as compared to distance runners. In case of sprinters, the MNCV of radial and sural nerves were higher in dominant limbs (i.e. arms and legs) of both sides of the body. But, in case of distance runners, the MNCV of radial and sural nerves is higher in non dominant limbs.

Keywords : motor nerve conduction velocity, radial nerve, sural nerve, sprinters

Conference Title : ICPESS 2014 : International Conference on Physical Education and Sport Science

Conference Location : Paris, France

Conference Dates : June 26-27, 2014