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Serum Potassium Before, During and After Exercise at 70% Maximal Heart Rate: The Safe Exercise Dosage Across Different Parameters of Health and Fitness Level

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Abstract : The number of sudden deaths is increasing over the past years. These deaths occur not during physical activities but upon cessation. Post-mortem confirms these deaths as cardiac arrest non-specifically. Congenital heart disease is a condition undiagnosed whereby only surface upon physical exertion leading to sudden death is unavoidable. Channelopathy, a condition that refers to any disease from the defect in iron-channel function, particularly the sodium-potassium pump, during the cessation of the exercise can be controlled. The derivation of heart rate return (HRrtn) is a procedure of a control cooling down process according to the heart rate (HR). Empirically, potassium rises linearly with intensity and falls sharply upon abrupt cessation of exertion, resulting in fatal arrhythmia due to hypokalaemia. It is vital that the flux of potassium should be maintained within the normal range during physical activities. To achieve this, the dosage of physical exertion (exercise) should be identified. Various percentages of the intensity of maximum heart rate (MHR) will precipitate different adaptations and remodeling of various organs. 70% of MHR will surface physiological adaptations, including enhancement of endurance, fitness level, and general health, and there was no significant rise of serum potassium (K+) during the entire phase of the treadmill brisk walk at a different rate of perceived exertion (RPE) from the subject of various fitness background. There was also no significant rise in blood pressure (BP) during the entire phase of the treadmill brisk walk, substantiating 70% MHR is the safe dosage across different parameters of health and fitness level.

Keywords : potassium, maximal heart rate, exercise dosage, fitness level
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