

# 89 THE EFFECTS OF SELECTED SUBMAXIMAL SHORT DURATION ACTIVITIES ON S-T SEGMENT CHANGES IN ACTIVE YOUNG MEN

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Because of the physiologically significant electrical changes of heart following the short- or long-term physical activities, and diagnostic value of these changes, after or during the exercise training, researchers suggest that type, duration and intensity of physical activity play key roles in studying the ECG responses to exercise. The aim of the study was to investigate the effect of selected submaximal tests for estimating of  $\text{VO}_2\text{max}$  (because of frequently use of them), as submaximal short duration activities, on ST segment changes in active young men. For this purpose, 13 healthy men were randomly selected from the physical education students at Urmia University. They had at least 3 years' experience in regular physical activity and sport participation. Measurements were made during four consecutive days (every day, 08:00). At 1st day, age ( $24.7 \pm 2.3$  years), height ( $176.5 \pm 2.6$  cm), weight ( $69.4 \pm 3.7$  kg), and pretest ECGs were recorded. Subjects performed PWC<sub>195</sub> test, Katch-McArdle step test and Astrand ergometer test at 2nd, 3rd and 4th days, randomly. Immediately after the tests, post-test ECGs were recorded. Data were analysed using paired-sample t test (for comparison between pretest and each of post-tests) and one-way analysis of variance (for comparison among post-tests). Statistical significance was accepted at  $p < 0.001$  and  $p < 0.05$ . Analysis of data indicated that all of three tests had significant effects on ST segment voltage ( $p < 0.001$ ). Also, there were no significant differences between mean ST segment voltages of post-tests ( $p < 0.05$ ) (rest:  $0.053 \pm 0.017$ , PWC<sub>195</sub> test  $0.023 \pm 0.011$ , Katch-McArdle step test  $0.021 \pm 0.010$ , Astrand ergometer test  $0.021 \pm 0.004$  mv). Our findings suggest that submaximal short duration activities (and tests) statistically reduce the voltage of ST segment, but, these depressions are not pathologically significant, because they were less than 0.1 mv.