ABSTRACT

TITLE:	A Physiological Comparison of Three Different Treadmill Protocols in Trained Runners
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ABSTRACT: The purpose of this study was to determine the best of three treadmill protocols on the determination of VO2max, ventilatory threshold, and maximal lactate values for trained runners. The three protocols used were an increasing speed protocol (started at a self chosen speed increasing 0.5mph every minute with a constant 5% grade), an increasing grade protocol (self chosen speed that stayed constant and grade started at 0% increasing 1% every minute), and an increasing speed /grade protocol (started at a self chosen speed and increased 0.5mph every minute, and started at 0% grade increasing 1% every minute). VO2 max of seven volunteers (2 females, 5 males, mean age 28) was measured in each protocol by expired gas (vacuumed mini CPX gas analyzer). To better understand aerobic fitness, ventilatory threshold and blood lactates were also analyzed. Using a single factor repeated measures ANOVA , the results showed that there was no significant difference in VO2max (p=.51), ventilatory threshold (p=.27), and maximal lactates values (p=.20) between the different protocols. The tests concluded that since there were no significant differences, any of the three tests could be used to elicit valid VO2max results.