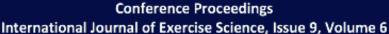


## Mid Atlantic Regional Chapter of the American College of Sports Medicine

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## Improvement in High School 1600-Meter Run Times Within and Between Seasons

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A model for expected improvement of high school 1600-meter runners' race times throughout a track season could improve coaches' ability to determine the effectiveness of a given training program. **PURPOSE**: To develop a model for improvement within and between seasons for high school track athletes in the 1600-m run through analysis of New Jersey meet results across one track season. METHODS: The results of the 1600-m races from 36 high school indoor and outdoor track meets from December 2014 to May 2015 were downloaded from a publicly available website (http://nj.milesplit.com), and regression lines were used to model the average race time as a function of the week of the season by gender and grade. **RESULTS**: The regression parameters for 9th grade females were an intercept of 384.2±6.2 s (mean±SE) and a slope of -1.2±0.5 s week-1 (r2=0.28). For 10th grade females the intercept was 377.9±5.7 s and the slope was -1.1±0.4 s week-1 (r2=0.29). For 11th grade females the intercept was 362.3±4.1 s and the slope was -0.4±0.3 s·week-1 (r2=0.08). For 12th grade females the intercept was 366.5±5.7 s and the slope was  $-0.8\pm0.4$  s week-1 (r2=0.19). For 9th grade males the intercept was 323.9 $\pm5.1$  s and the slope was  $-0.5\pm0.4$ s·week-1 (r2=0.08). For 10th grade males the intercept was 314.9±4.1 s and the slope was -1.0±0.3 s·week-1 (r2=0.39). For 11th grade males the intercept was 304.1±4.0 s and the slope was -0.6±0.3 s·week-1 (r2=0.22). For 12th grade males the intercept was 300.5±4.1 s and the slope was -0.5±0.3 s·week-1 (r2=0.15). **CONCLUSIONS**: Further research is needed verify the accuracy of this model. We speculate that this model would be a poor predictor of week-to-week 1600-m times, but a better predictor of long term improvement.

