SWACSM Abstract

Sled-pull Training Improves Maximal Horizontal Velocity in Collegiate Male and Female Soccer Players

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ABSTRACT

The force velocity profile (FvP), which details the capacity to sprint and accelerate, is a determinant of success in soccer. To date, no data exist that details the FvP of male and female collegiate Division I soccer players. Further, there is limited insight on how training interventions may modify the FvP of either males or females. **PURPOSE**: The aim of this investigation was to compare FvP between collegiate male and female athletes and assess the efficacy of a 12-week sled pull training intervention. **METHODS**: 17 male (20.17 ± 1.38 yrs) and 12 female (19.75 ± 1.05 yrs) soccer players participated in a 12-week sled pull training intervention. FvP was measured prior, during, and after training using a 30m sprint to assess maximal horizontal force (F_0), maximal horizontal speed (V_0), and maximal power output (P_{max}). **RESULTS**: The intervention improved 30m sprint times of men by 11.86% (pre: 4.35 ± 0.17s, post: 4.27 ± 0.17, $p<0.05$) and women by 5.1% (pre: 5.01 ± 0.18s, post 4.96 ± 0.20, $p<0.05$). This was reflected by an improvement V_0 in both men (pre: 7.98 ± 0.36 m/s, post: 8.09 ± 0.35 m/s, $p<0.05$) and women (pre: 6.73 ± 0.26 m/s, post 6.84 ± 0.31 m/s, $p<0.05$). However, the intervention did not improve F_0 or P_{max}. **CONCLUSION**: This is the first study to detail FvP in both male and female collegiate soccer players. A 12-week sled pull training intervention improves 30m sprint times and V_0 in both male and female collegiate athletes, but does not improve F_0 and P_{max}. Thus, the sled pull intervention should be modified or paired with other training that specifically targets force and power development.