

# Jump Training in Youth Soccer Players: Effects of Haltere Type Handheld Loading

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The aim of this study was to compare the effects of a jump training program, with or without haltere type handheld loading, on maximal intensity exercise performance. Youth soccer players ( $12.1 \pm 2.2$  y) were assigned to either a jump training group (JG,  $n=21$ ), a jump training group plus haltere type handheld loading (LJG,  $n=21$ ), or a control group following only soccer training (CG,  $n=21$ ). Athletes were evaluated for maximal-intensity performance measures before and after 6 weeks of training, during an in-season training period. The CG achieved a significant change in maximal kicking velocity only ( $ES=0.11-0.20$ ). Both jump training groups improved in right leg ( $ES=0.28-0.45$ ) and left leg horizontal countermovement jump with arms ( $ES=0.32-0.47$ ), horizontal countermovement jump with arms ( $ES=0.28-0.37$ ), vertical countermovement jump with arms ( $ES=0.26$ ), 20-cm drop jump reactive strength index ( $ES=0.20-0.37$ ), and maximal kicking velocity ( $ES=0.27-0.34$ ). Nevertheless, compared to the CG, only the LJG exhibited greater improvements in all performance tests.

Therefore, haltere type handheld loading further enhances performance adaptations during jump training in youth soccer players. © Georg Thieme Verlag KG Stuttgart, New York.

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