

## **Effects of a Ten Week Barbell Deadlift Training Program on Vertical Jump Height in College-Aged Women**

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### ABSTRACT

The barbell deadlift is a large muscle mass exercise that primarily involves extension at the hip and knee joints. Although it is often incorporated into strength training programs with a variety of other exercises (e.g., back squat), no previous studies have examined the effects of deadlift training on strength or power adaptations. The purpose of this investigation was to examine the effects of a ten week barbell deadlift training program on vertical jump height in previously untrained women. Twenty-eight women (mean  $\pm$  SD age =  $22 \pm 2$  years) were randomly assigned to either the training group ( $n = 17$ ) or the control group ( $n = 11$ ). The training group visited the laboratory for supervised exercise twice per week for ten weeks. Each training session involved five sets of the barbell deadlift, and each set utilized the heaviest external load that allowed for five repetitions with proper exercise technique. If all repetitions were performed with correct technique, additional weight ( $\leq 2.27$  kg) was added to the barbell during the next training session. The control group was asked to refrain from lower-body exercise throughout the course of the study. Vertical jump height was assessed with a Vertec before and after the ten week intervention. An analysis of covariance (ANCOVA) was used to examine the data, and the pretest and posttest values were used as the covariate and dependent variable, respectively. The ANCOVA indicated that the posttest mean for the training group (42.5 cm) was significantly greater than that for the control group (39.0 cm) after adjusting for the pretest vertical jump height scores ( $p = .012$ ,  $\eta^2 = .229$ ). The effect size for the unadjusted mean increase for the training group (3.6 cm) was considered small-to-moderate (Cohen's  $d = .37$ ). These findings demonstrated that a ten week exercise training program using only the barbell deadlift significantly improved vertical jump height in college-aged women.