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*Journal of Exercise
Science and Fitness,
2010*

The verb form of the word “function” pertains to the performance of an action, work or activity. Thus, exercise training programs that are deemed “functional” should mimic tasks or activities of daily living (ADLs) to make training adaptations more transferable. Functional training is considered a better alternative than traditional resistance training for improving various measures of muscular fitness. The purpose of this study was to determine if functional training has similar effects on muscular fitness, flexibility, balance and anthropometric measures to traditional resistance training. We hypothesized that functional training will improve anthropometric and performance measures more effectively than traditional resistance training.

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Original Article

EFFECT OF FUNCTIONAL RESISTANCE TRAINING ON MUSCULAR FITNESS OUTCOMES IN YOUNG ADULTS

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As functional resistance training becomes a more popular method to improve muscular fitness, questions remain regarding the effectiveness of functional training compared to traditional resistance training. Therefore, the purpose of this study was to determine whether functional training has similar effects as traditional resistance training on muscular strength and endurance, flexibility, agility, balance, and anthropometric measures in young adults. In this study, 38 healthy volunteers, aged 18–32 years, were randomly placed into a control group [traditional ($n=19$)] and an experimental group [functional ($n=19$)]. The participants were tested prior to and after completing the 7-week training study. The testing battery included: weight, girth measurements, flexibility, agility, lower back flexion and extension endurance, push-up test, sit-up test, one-leg balance, one-repetition maximum (1-RM) bench press and squat. Results indicated significant ($p<0.05$) increases in push-ups, back extension endurance, 1-RM bench press, 1-RM squat, and one-leg balance within each group following training. Traditional training also elicited significant ($p<0.05$) increases in bicep girth, forearm girth, calf girth, and sit-ups, while the functional training group experienced significant ($p<0.05$) increases in shoulder girth and flexibility. Forearm girth and flexion test time changes following training were the only parameter where there were significant ($p<0.05$) differences between training groups. Collectively, these results suggest that both programs are equally beneficial for increasing endurance, balance, and traditional measures of strength. However, changes in various girth measures, torso flexor endurance and flexibility appear to be program-specific. [*J Exerc Sci Fit* • Vol 8 • No 2 • 113–122 • 2010]

Keywords: activities of daily living, exercise movement techniques, multi-joint exercises, muscular flexibility, strength training

Introduction

Functional training is becoming increasingly popular within the fitness industry and has been considered to be a better alternative than traditional resistance training for improving various measures of muscular fitness including strength, endurance, coordination and balance. Definitions describing what functional training

is or what a functional exercise program should entail vary considerably in the literature. Furthermore, experimental research conducted to ascertain the muscular fitness benefits of functional training is limited and focused specifically on improving function in older adults (Milton et al. 2008; de Vreede et al. 2005; Whitehurst et al. 2005).

The verb form of the word “function” pertains to the performance of an action, work or activity. Thus, exercise training programs that are deemed to be “functional” should be designed to mimic tasks or activities that occur in a person’s daily life to make training adaptations more transferable. Rikli and Jones (1999) define functional fitness as having the ability to

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