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Health- and performance-related potential of resistance training.

[Stone MH](#), [Fleck SJ](#), [Triplett NT](#), [Kraemer WJ](#).

Source

Appalachian State University, Boone, North Carolina.

Abstract

Regular physical activity can improve cardiovascular fitness and may reduce the likelihood and debilitating effects of cardiovascular disease. Weight-training has generally been believed to have limited value in modifying risks of cardiovascular disease. Effects shown of resistance training on parameters associated with cardiovascular fitness and disease include: heart rate decreases for maximal work and recovery from short term weight-training, increased ventricular mass, and increased ventricular wall and septum thickness. Studies suggest that myocardial hypertrophy resulting from resistive training can be accompanied by positive myocardial adaptations. Blood pressure response considerations to resistive training include: similarity of resistive exercise peak response to other forms of high intensity exercise, highest blood pressures occur at or near exhaustion during maximum lifts, training appears to reduce the exercise blood pressure. Given the blood pressure responses caution is required for individuals with cardiovascular disease. Studies of high-volume weight-training indicate that small to moderate increases in aerobic power can occur in relatively short periods of time. The mechanisms by which weight-training increases VO₂max is unclear. Resistive training may produce positive changes in serum lipids with the volume of training being the dependent factor. Cross-sectional and longitudinal studies of bodybuilders suggest that weight-training may beneficially alter glucose tolerance and insulin sensitivity. It appears that weight-training can increase short term high intensity endurance without a concomitant loss in performance. Resistive training increases power output and performance. Body composition has important relationships to cardiovascular fitness, strength and flexibility. It is likely that it can be affected and controlled by use of large body mass during exercise depending on training volume.