

Effects of 16 Weeks of High-Intensity Strength Training on Frail Adults With Chronic Disease

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OBJECTIVES:

15 subjects were medically screened according to 3 criteria; 1) over 70 years of age, 2) medically stable, and 3) enrolled in an exercise program for at least 3 months. The subjects aged 73-85 were each tested 3 separate times to assess peak oxygen uptake. Keiser strength equipment was used to determine strength measurements in the knee extensors and tricep extensors. Training consisted of performing 3 sets of 6 repetitions at 80% of 3 repetition maximum.

RESULTS:

Body weight was reduced following training. In addition knee extension strength increased 69%, while tricep strength increased 59.7%. Strength training did not aggravate any of the chronic conditions and many of the subjects self reported feeling better as a result of the improved strength. The changes in ventilation, oxygen uptake, respiratory quotient and heart rate were statistically non-significant, however the measurements indicate a trend towards improved respiratory efficiency.

SUMMARY:

Dramatic increases in muscle strength did not translate into significant improvements in peak oxygen uptake. However, high intensity strength training is safe and effective for preserving physical function in even subjects with chronic conditions such as arthritis, hypertension or coronary artery disease. Improved physical function can in return help frail adults cope with their chronic conditions.

KEISER PIECES USED:

Leg extension, triceps.

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