Resistance Training Improves Cognitive Function

Resistance training performed once or twice a week for at least a year may improve older women's executive cognitive function, according to study results published in *Archives of Internal Medicine* (2010;170[2]:170-178). Teresa Liu-Ambrose, PhD, PT, et al say their findings have important clinical implications because "cognitive impairment is a major health problem that currently lacks a clearly effective pharmaceutical therapy and ... resistance training is not widely adopted by seniors."

THE SET-UP

The researchers conducted a randomized, controlled prospective trial with 155 female participants. All subjects were between the ages of 65 and 75 (mean, 69.6) and lived independently in their own homes in Vancouver.

Subjects were randomly assigned to participate in either once-weekly resistance training, twice-weekly resistance training, or a twice-weekly balance and tone program. Classes were 60 minutes long (10-min warm-up, 40-min core content, and 10-min cool-down).

The primary outcome measure was the specific executive cognitive function of selective attention and conflict resolution, as measured by the Stroop test.

THE RESULTS

For the primary outcome measure of performance on the Stroop test, the once-weekly and twice-weekly resistance training groups experienced improvements of 12.6% and 10.9%, respectively. By comparison, the balance and training group experienced a 0.5% deterioration in task performance on the Stroop test.

Additional analyses revealed significant between-groups differences in terms of peak muscle power: Subjects in the twice-weekly resistance training group had an increase in peak muscle power of 13.4%, whereas those in the once-weekly resistance training and balance and training groups had decreases of 8.4% and 16.3%.

Adverse events (eg, musculoskeletal complaints) occurred in 29.8% of the once-weekly resistance training group, 10.9% of the twice-weekly resistance training group, and 9.5% of the balance and training group. "Hence," the researchers conclude, "the possible increased risk for musculoskeletal injury with once-weekly resistance training must be weighed against its benefit of reduced training time compared with twice-weekly resistance training." **CR**