

Strength Improvements With 1 Year of Progressive Resistance Training in Older Women

Morganti, C.M., Nelson, M.E., Fiatarone, M.A., Dallal, G.E., Economos, C.D., Crawford, B.M., Evans, W.J. Human Physiology Laboratory and Division of Biostatistics, Jean Mayer USDA Human Nutrition Research Center on Aging, Tufts University; Division on Aging, Harvard Medical School, Boston, MA. Noll Physiology Research Center, Pennsylvania State University, State College, PA.

OBJECTIVES:

Thirty-nine healthy women aged \approx 59 years were placed in either a control group or a strength training group that trained twice weekly for 12 months. The exercise group trained at 80% of their most recent one repetition maximum. The one repetition maximum was measured for each exercise once a month in the exercise group and at the beginning, mid-study, and end of the study in the control group.

RESULTS:

One repetition maximum was increased in the exercise group by \approx 74% (lateral pull down), \approx 35% (knee extensor), and \approx 77% (leg press). The control group showed increases of \approx 13%, \approx 3.7% and \approx 18% respectively. In the exercise group approximately 50% of the gains in knee extension and lateral pull down, and \approx 40% in the leg press were seen in the first 3 months of the study. In all three exercises strength gains in the exercise group continued over the entire 12-month period.

SUMMARY:

These data show that high-intensity, progressive strength training results in substantial and continual strength increases in post menopausal women for at least 12 months. The greatest gains were seen in the first 3 months of training. The evidence that you can expect to see improvement in strength over 38 at least a one year period is important both physically and psychologically. It means that your programming should support achievement of long range strength gains. In addition participants should be aware that they can expect a plateau effect at around 3 months, but with continued strength training will likely experience a gradual increase for at least the following 9 months.

KEISER PIECES USED:

Lat. pull-down, leg extension, and leg press.