Does Strength Training Inhibit Gains in Range of Motion from Flexibility Training in Older Adults?

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OBJECTIVES:
Thirty-one untrained men aged 50-74 years were studied to compare the effects of 3 different programs on shoulder and hip range of motion. 14 subjects performed strength and flexibility training, 10 subjects performed flexibility only training, and 7 subjects performed no training as inactive controls. The strength & flexibility program included a 3-minute warm-up, approximately 30 minutes of heavy strength training, and about 10 minutes of static stretches both before and after the strength training. The flexibility only program omitted the strength training but consisted of the identical warm-up and stretching exercises used in the strength & flexibility program.

Shoulder abduction, shoulder flexion, and hip flexion were measured in all groups before and after the training period. In addition, aerobic capacity, percent body fat, and muscular strength were assessed before and after in the strength & flexibility group.

RESULTS:
The strength & flexibility training resulted in a decline in percent body fat and a small increase in aerobic capacity. It also increased strength by ≈ 44%. Increases in shoulder abduction (5%) were significantly less than improvements observed with flexibility only training (15%). Shoulder range of motion increases of 9.8% in the strength & flexibility group were less than the 12% observed in the flexibility only group. Hip flexion improved significantly (15%) with flexibility only training but not with strength & flexibility training. There were no significant differences among groups for shoulder flexion, and no significant changes in range of motion in any of the areas tested in the controls.

SUMMARY:
Strength and flexibility training programs are not as effective as flexibility training alone for improving joint range of motion. Therefore, if the goal is only to increase range of motion, then flexibility training alone will accomplish this goal more effectively than strength training combined with flexibility training. However, strength and flexibility training did not result in a decline in range of motion, in fact provided modest improvements. The strength & flexibility program also provided additional benefits such as reduction in body fat and increased strength.

KEISER PIECES USED:
Leg press, chest press, leg curl, leg extension, lat pull down, shoulder press, upper back, hip abductor, triceps and abdominal machines.

Published in Medicine and Science in Sports and Exercise, Copyright 1995, American College of Sports Medicine. The following studies also document substantial strength gains (from 37-113%) due to strength training; numbers 1 & 3 - Body Composition, 5 & 7 - Bone Density, 10 & 12 - Chromium Supplementation, 13 & 14 - Chronic Conditions, 17 thru 21 - Diabetes, 22 thru 24 - Hormonal Responses, 26 & 27 - Muscle Injury, 28 & 29 Physical Frailty, 31 - Depression, and 37 - "Other" .

The following studies also document substantial strength gains (from 37-113%) due to strength training; numbers 1, 3, 5, 7, 10, 12, 13, 14, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29, 31, and 37.