

Effects Of Strength Training On Bone Mineral Density: Hormonal And Bone Turnover Relationships

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OBJECTIVES:

The effects of a 16-week strength training program on bone mineral density was tested in 21 healthy men aged 50-75 years, with 16 other similar aged men serving as inactive controls. Several hormone levels were tested before and after training. In addition markers of bone formation and a marker of bone resorption were measured to assess bone turnover.

RESULTS:

Body weight did not change with training, but percent body fat decreased and lean mass increased. There was a slight increase in a measure of aerobic capacity and a 38% increase in strength. The training program resulted in a 2.8% increase in femoral neck bone mineral density but there were no significant changes in total body or other site measures of bone mineral density. There were no significant changes in hormone levels or markers of bone formation, but there was an increase in the marker of bone resorption. There were no changes in any of the variables in the control group except for an increase in the marker of bone resorption equal to that of the exercise group.

SUMMARY:

Strength training increases femoral neck bone mineral density in older men. This effect is not connected to changes in blood levels of hormones, or markers of bone formation or resorption. This study confirms the findings of study # 17.

KEISER PIECES USED:

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

Presented at the 40th Annual Meeting of the American College of Sports Medicine, 1993. Published in *Medicine and Science in Sports and Exercise*, vol. 25(supplement),pg. S-188, May 1993.