

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 men aged 51-71 years. Sixteen other similar aged men served as inactive control subjects. Several markers of bone formation and a marker of bone resorption were measured before and after training to assess bone turnover. In addition, to investigate if hormones have underlying effects on bone mineral density, blood levels of 3 hormones were checked before and after training.

RESULTS:

The strength training program resulted in an increase in femoral neck bone mineral density but no significant changes in total body or various other site measures of bone mineral density. In addition, there were no significant changes in the hormone variables. There were no changes in any of the measures on the control group.

SUMMARY:

This study shows that strength training can increase femoral neck bone mineral density. This effect does not appear to be accompanied by changes in anabolic hormones or markers of bone formation and resorption. Increasing bone mineral density has implications for the prevention and control of osteoporosis.

KEISER PIECES USED:

Leg press, chest press, leg curl, lat. pull down, leg extension, military press, hip adductor, hip abductor, upper back, tricep, lower back, abdominal.