

# Strength Training Increases Resting Metabolic Rate and Norepinephrine Levels in Healthy 50 to 65 Year Old Men

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## **OBJECTIVES:**

The researchers hypothesized that a strength training program capable of increasing fat free mass would also increase the resting metabolic rate in older individuals. To test this theory, resting metabolic rate, body composition and blood concentrations of certain hormones known to affect resting metabolic rate were measured before and after a 16 week heavy strength training program in 13 healthy men 50-65 years of age.

## **RESULTS:**

Average strength levels increased 40% with training, body weight did not change, body fat decreased, and fat free mass increased. Resting metabolic rate also increased 7.7% with strength training. Levels of norepinephrine in the arteries increased 36% with strength training, but there were no changes in fasting glucose, insulin, or thyroid hormone levels.

## **SUMMARY:**

These results indicate that heavy strength training increases resting metabolic rate in healthy older men, perhaps by increasing fat free mass and sympathetic nervous system activity. Increasing the resting metabolic rate through strength training can help individuals manage their body weight, and prevent obesity along with its many health consequences.

## **KEISER PIECES USED:**

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

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