

# Novel method used to treat obese mice

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Johns Hopkins scientists, working on genetically engineered obese mice, have used a nerve protection and growth factor to cut the size of the heart muscle.

The mice suffered from seriously thickened hearts, a condition called cardiac hypertrophy. Researchers used the nerve protection and growth factor on the heart to mimic the activity of the brain hormone leptin, dramatically reducing the size of the heart muscle.

Leptin is a protein hormone made by fat cells that signals the brain to stop eating. Alterations in the leptin-making gene may create leptin deficiency linked to obesity and other defects in weight regulation.

By injecting the so-called ciliary neurotrophic factor into mice that were either deficient in or resistant to leptin, the researchers reduced the animals' diseased and thickened heart muscle walls by as much as a third. They also reduced the overall size of the left ventricle, the main pumping chamber, up to 41 percent, restoring the heart's architecture toward normal.

Enlarged hearts lead to heart failure and death.

Results of the study, supported in part by the National Institutes of Health, appear in the March 6 issue of the Proceedings of the National Academy of Sciences.

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