Fitness impacts concentric remodeling, diastolic function

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(HealthDay)—Low cardiorespiratory fitness is associated with increased concentricity and diastolic dysfunction, according to a study published in the April issue of the *Journal of the American College of Cardiology: Heart Failure*.

Stephanie K. Brinker, M.D., from the University of Texas Southwestern Medical Center in Dallas, and colleagues estimated fitness in participants (1,678 men and 1,247 women) of the Cooper Center Longitudinal Study. Participants received an echocardiogram from 1999 to 2011 and were categorized into age-specific quartiles of fitness, with quartile 1 representing low fitness.

The researchers found that higher levels of mid-life fitness (metabolic equivalents) correlated with larger indexed left atrial volume and
indexed left ventricular end-diastolic diameter. There was also a correlation for higher level of fitness with a smaller relative wall thickness and E/e' ratio. No significant association was observed for low fitness with left ventricular systolic function.

"Low fitness is associated with a higher prevalence of concentric remodeling and diastolic dysfunction, suggesting that exercise may lower heart failure risk through its effect on favorable cardiac remodeling and improved diastolic function," the authors write.

Two authors disclosed financial ties to the pharmaceutical and medical device industries.

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