Exercise training improves left ventricular function in T1DM

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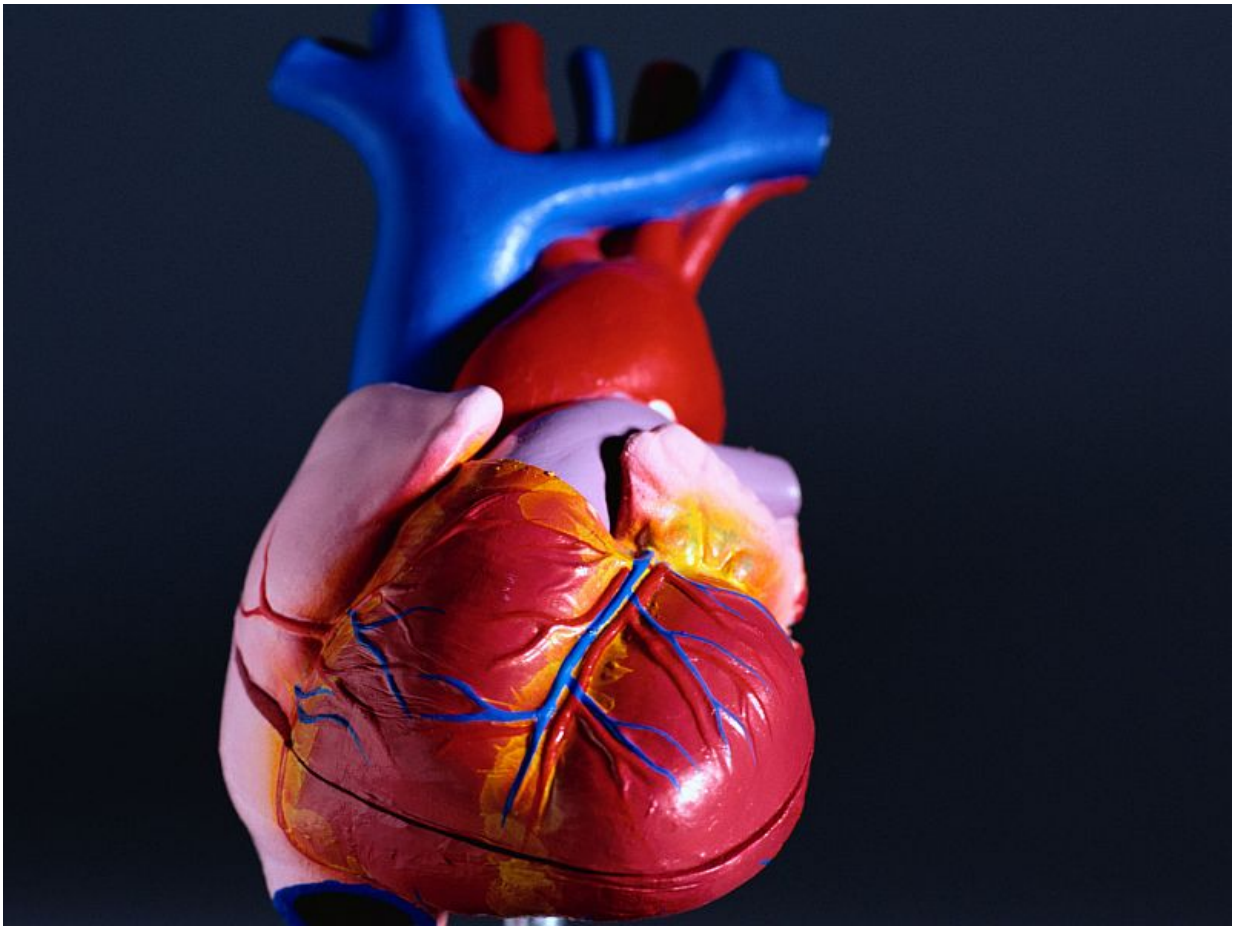

(HealthDay)—For adolescents with type 1 diabetes, a 20-week exercise

training intervention is associated with improved aerobic capacity and stroke volume, according to a study published online July 18 in *Diabetes Care*.

Silmara Gusso, Ph.D., from the University of Auckland in New Zealand, and colleagues examined the impact of 20 weeks of exercise training in aerobic capacity on left ventricular function and glycemic control in adolescents. Fifty-three adolescents with type 1 diabetes were divided into exercise training and non-training groups (38 and 15 participants, respectively), while 22 healthy adolescents without diabetes participated in the exercise training intervention.

The researchers found that in both training groups, exercise training improved aerobic capacity (10 percent) and stroke volume (6 percent), but the increase was lower in the group with type 1 diabetes versus controls. In adolescents with type 1 diabetes, increased stroke volume resulted from greater left ventricular contractility (9 percent increase in ejection fraction and 11 percent decrease in end-systolic volumes) and, to a lesser extent, improved left ventricular filling (6 percent). There was about a 10 percent decrease in insulin use, but there was no change in glycemic status.

"In adolescents, the impairment in left ventricular function seen with type 1 diabetes can be improved, although not normalized, with regular intense physical activity," the authors write. "Importantly, diastolic dysfunction, a common mechanism causing heart failure in older subjects with diabetes, appears to be partially reversible in this age group."

More information: Abstract/Full Text (subscription or payment may be required)