Endurance training may have a protective effect on the heart

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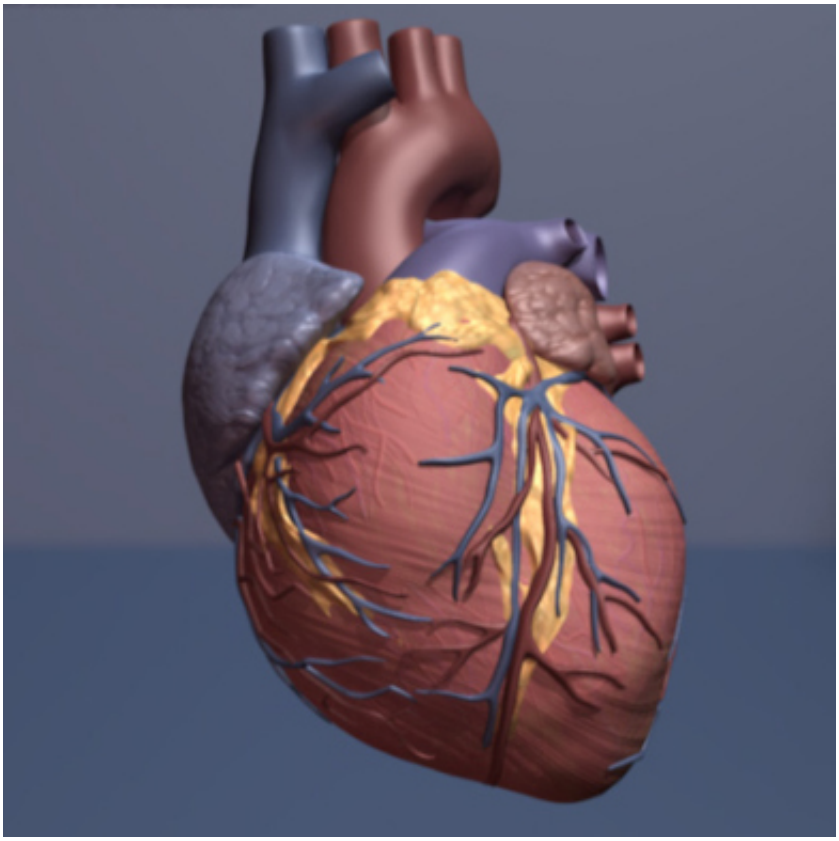

Human heart. Credit: copyright American Heart Association

Findings published in *Experimental Physiology* suggest that exercise could be just as important for your heart heath as cholesterol and a healthy diet.

Expression of genes used to repair damaged DNA increased in response to endurance exercise, even after just a single session, say scientists. The collaboration between the University of Maryland, the University of Texas Southwestern Medical Center, East Carolina University, the Catholic University of Brasilia and Southern Methodist University shows how physiological stressors like exercise can remodel heart tissue.

These findings are important for understanding how exercise provides a protective effect on the heart. The researchers hope that by understanding this process and basic heart biology, future research may lead to increased life expectancy and drug-free cures for chronic heart problems, including high blood pressure.

The researchers studied the hearts of mice after 30 minutes of running on a treadmill. They looked at how genes were being expressed compared to those in hearts of mice that had not been exercised. The group results are applicable to humans because these genes are regulated in a similar way to those in humans.

Professor Stephen Roth, one of the co-authors, from University of Maryland's Department of Kinesiology, said,

'The genes that are important for genome stability are upregulated in the heart tissue after a single bout of endurance exercise. This may contribute to the protective effects of exercise on cardiovascular health.'

More information: Andrew T. Ludlow et al, Acute exercise activates p38 MAPK and increases the expression of telomere protective genes in cardiac muscle, *Experimental Physiology* (2017). DOI: 10.1113/EP086189

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