FUTURITY



CARRY THIS HEART GENE MUTATION? DON'T WORK OUT

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JOHNS HOPKINS (US) — Exercise is a potentially deadly risk even for otherwise healthy carriers of a heart-related genetic mutation, research shows.

Working out or playing endurance sports can significantly accelerate development of ARVD/C in those who have the mutation that causes the disease, the study shows.

“This is one of the very rare instances in which we would advise against regular exercise,” says Hugh Calkins, director of the Johns Hopkins program in ARVD/C, also known as arrhythmogenic right ventricular dysplasia/cardiomyopathy.

[sources]

“Among those [research subjects] who did the most exercise daily, about two hours each day, 75 percent developed their first life-threatening arrhythmia during the course of the study,” adds Aditya Bhonsale, a co-author and clinical fellow in cardiology at the Johns Hopkins University School of Medicine.

Carriers who significantly cut back on their exercise regimen appeared to reduce their risk or delay the onset of symptoms.

“Those who heeded advice to cut back to little or no exercise had a much lower, 12 percent risk, within the eight-year follow-up period,” Bhonsale says.

The study appears online in the ***Journal of the American College of Cardiology***.

Increased amount and intensity of exercise among those with the mutation drove up the risk of developing the disease, says lead author Cynthia James, a genetic counselor in the ARVD/C program.

“Those who engaged in vigorous exercise developed their first symptoms at age 30, on average, while those who did not have such a rigorous exercise regimen began having symptoms at an average age of 40,” James says.

ARVD/C is an inherited disorder and one of the most common causes of sudden death in athletes and young, apparently healthy adults. Its prevalence is estimated at one in 5,000 people. The disorder causes scarring of the heart muscle, mainly on the right side, which interrupts the normal electrical activity of the heart.

Symptoms include very fast heartbeats that prevent the heart from adequately pumping blood to the rest of the body. ARVD/C can also lead to heart failure.

Although the genetics of ARVD/C are complex and not fully understood, it clearly runs in families. People with already-developed ARVD/C already are counseled at Johns Hopkins to stop exercising because it is known to accelerate the disease process. The new study was designed to find out if the same advice should apply to healthy carriers of the mutation.

“Increasing numbers of people are having genetic testing for ARVD/C once they find out that a member of their family has the mutation,” says Calkins,

professor of medicine and senior author of the study. “This is important information for them and their physicians.”

“People who carry the mutation need to be cautious,” he says, “and we hope that the data will help these individuals avoid life-threatening complications down the road.”

The researchers evaluated 87 people (46 males and 41 females), looking at which individuals routinely engaged in vigorous aerobic exercise and how many hours the participants spent per year in those activities. Participants ranged in age from 11 to 88. They were all enrolled in the Johns Hopkins ARVD/C registry and carried a mutation associated with ARVD/C.

Half of the participants had early symptoms of the disease, such as heart palpitations or a fainting episode. The other half appeared healthy and had no symptoms.

The registry used for the study is funded by the National Heart, Lung, and Blood Institute, the St. Jude Medical Foundation and Medtronic Inc.

Source: ***Johns Hopkins University***

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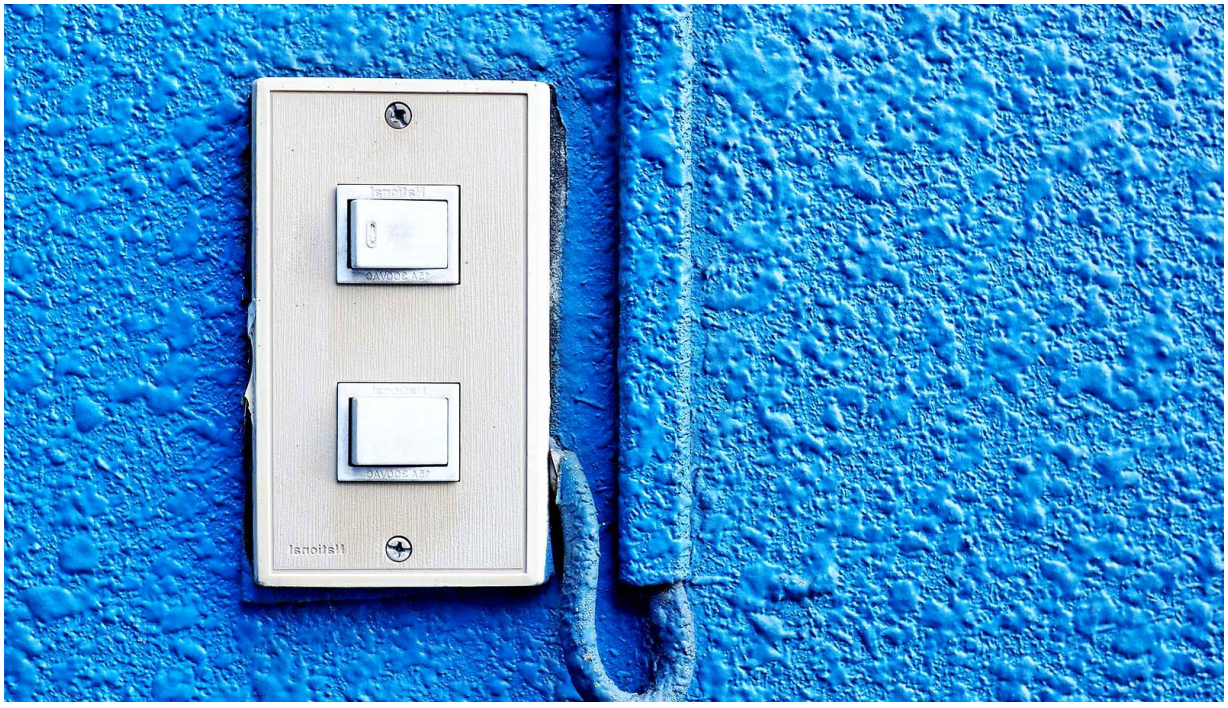

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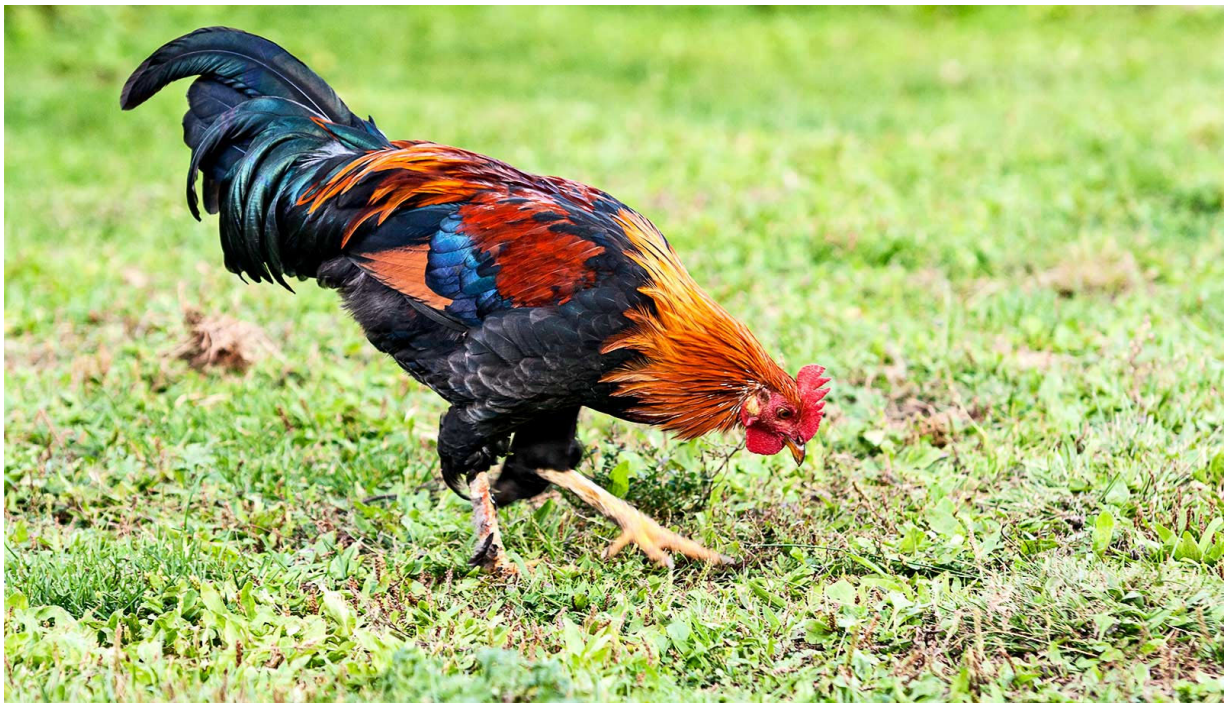

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