

How exercise makes heart healthier

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A new study has found that exercising regularly keeps our heart healthy and even reduces the risk of developing cancer and other diseases by targeting the heart cells' powerhouses - the mitochondria.

Eduard Sabido, Francisco Amado and colleagues explain that despite the well-documented benefits of exercise, the exact way that it helps the heart is not well understood. Sure, it helps strengthen the heart muscle so it can pump more blood throughout the body more efficiently.

And people who get off the couch and exercise regularly have a reduced risk of developing heart problems and cardiovascular disease.

One estimate even claims that 250,000 deaths every year in the U.S. are at least partially due to a lack of exercise, but how this all happens in the body at the molecular level has perplexed researchers - until now.

The team found that laboratory mice (stand-ins for humans) that exercised for 54 weeks on a treadmill-running regimen had higher levels of certain proteins in the mitochondria of their heart cells than mice that did not exercise.

Mitochondria produce energy for the body's cells. In particular, they identified two proteins, kinases called RAF and p38, which "seem to trigger the beneficial cardiovascular effects of lifelong exercise training", they said.

The study is published in the ACS' Journal of Proteome Research.