
Our body adapts to intense exercise to burn fewer calories

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People who are the most physically active seem to become more efficient at using energy, and so burn fewer calories when not exercising than the rest of us.

“This isn’t an argument for not exercising,” says [David Stensel](#), who studies exercise metabolism at Loughborough University in the UK; [exercise is still good for you in a host of other ways](#). “But it helps us understand why not everyone gets the weight loss they expect with exercise.”

Researchers used wearable tracking devices to measure the activity levels of 332 people with a wide range of lifestyles, including residents of the US, Ghana, Jamaica, South Africa and the Seychelles. They also gauged people’s energy expenditure by getting them to drink water labelled with heavy isotopes and measuring how long it took for these compounds to leave the body as urine.

As expected, those who were moderately active burned more energy per day than those who were couch potatoes. But this relationship then plateaued, with those who were most active using the same energy as those who were moderately active.

It suggests that a typical Westerner who already walks to work and goes for short runs would expend no more calories per day if they shift up a gear and start doing long runs, says [Herman Pontzer](#) of Hunter College in New York, one of the authors of the study.

Fidget no more

Pontzer says we may unconsciously adapt to exercise in two ways. One is we start moving around less – by

reducing fidgeting, for instance. The other is lowering our resting metabolic rate by cutting energy use in a range of bodily functions, from the immune system to food digestion. "All these different systems are chugging along, spending calories," says Pontzer.

Previous studies that suggested exercise increases people's resting metabolic rate may have been flawed by testing people too soon after their last bout of exercise for their base rate to be measured, says Stensel.

Gym machines that provide a readout of how many calories you have burned aren't wrong, says Pontzer – two people of the same weight running at the same speed on a treadmill burn the same calories even if one is a fitness fanatic and one not. But highly active people make up for a long workout without realising it by burning fewer calories over the rest of the day.

"It's not changing the calories you expend on the run, it's changing the calories you expend on everything else," says Pontzer, pointing out that even with intense exercise, most of the calories burned during the day come from our bodies maintaining our bodies.

He says the findings could explain why a previous study of people trying to lose weight through exercise found that after a couple of months [their weight loss plateaued](#).

"More exercise can still be very good for your health but if you're already moderately active you are not going to see any change in your energy expenditure," says Pontzer.
