

YOUR MOVE

Long covid may set you back a decade in exercise gains

Scientists say that exercise intolerance should now be considered a new symptom of long covid

By [Gretchen Reynolds](#)

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Long covid can rob people of health, energy, employment and joy. It may also strip away the equivalent of a decade's worth of aerobic fitness, according to a large-scale new scientific review of long covid patients and exercise.

The [study](#), which was published in JAMA Network Open, aggregated results from dozens of earlier experiments to show that people with long covid typically have lower endurance capacity and find working out much harder than other people of similar ages who developed covid but recovered.

The findings add to mounting evidence, from both experiments and people's experiences, that "something is going on" in many people who develop long covid that makes exercise challenging, if not impossible, said Matthew Durstenfeld, a cardiologist at Zuckerberg San Francisco General Hospital and professor at the University of California at San Francisco Department of Medicine, who led the new study.

That possibility has implications for how long covid is defined and for the health and well-being of long covid patients, months or years from now.

Long covid, the name for the lingering, even intensifying symptoms of illness that continue for months after a covid-19 infection, afflicts millions of Americans and others globally. A [study published](#) earlier this week indicates at least one in 20 people sickened with [coronavirus](#) will develop long covid.

Typically, long covid is diagnosed based on a constellation of symptoms that includes headaches, fatigue, brain fog, joint pain and others. Many people with long covid also anecdotally report they cannot exercise or even walk around the block without feeling winded and exhausted.

But this inability to be active, known as exercise intolerance, generally has not been considered a formal symptom of long covid, Durstenfeld said, in part because clinicians and researchers thought it likely was due to deconditioning. That is, they thought people's stamina declined while they were bedridden with covid, and they would regain it once they got up and began moving around again.

But, anecdotally, many people with long covid did not recover their fitness, and, in the past year or so, published science began to suggest their bodies responded uniquely — and poorly — to exercise. During exercise testing, their hearts, respiration, muscles and other biological systems struggled far more than in healthy people.

But most of these studies were small-scale, sometimes involving a single patient, and typically focused on those who had been hospitalized, often for weeks or longer, making it difficult for researchers to separate the effects of being bedridden and inactive from those of long covid.

So, for the new study, Durstenfeld and his colleagues decided to aggregate and reanalyze the data from all relevant recent studies, to provide more heft to any findings by including as many patients as possible.

To accomplish this, they pinpointed nine experiments comparing the exercise tolerance of people with long covid against those of people who had been infected but recovered. Combining the studies' data, they wound up with results for 464 people with long covid and 359 without. These groups were similar in age, ranging from 39 to 56, and all had completed a clinical test of their aerobic capacity and heart rates on a treadmill or stationary bicycle, together with some additional medical testing.

Their results, though, were starkly different. In general, those who had gotten over covid showed normal exercise capacity for their age. But those with long covid had the stamina of someone 10 years older. Forty-year-olds would jog or cycle like “someone in their fifties,” Durstenfeld said.

An unusual response to exercise

They also harbored a raft of unusual, internal responses to exercise, the earlier studies showed. Many people's muscles drew less oxygen from the bloodstream than normal, hampering the muscles' ability to contract. People's heart rates also often failed to ramp up as much would be expected during exercise, slowing blood flow throughout the body, and some people hyperventilated.

These are not common physiological reactions after someone has gotten out of shape because of illness and bed rest, Durstenfeld said. “This is more than deconditioning.”

Other scientists agree. “I think the major and correct point in this review is that deconditioning alone” is not what makes exercise so challenging for many people with long covid, said David Systrom, a pulmonary physician at Brigham and Women's Hospital in Boston and professor of medicine at Harvard Medical School. He was not involved with the new study but has studied and treated patients with long covid.

People with long covid probably develop molecular changes within their muscles and some nerves and blood vessels, he said, that can influence how well their bodies deal with the physical demands of exercise. These changes and challenges occur even though most people with long covid show no obvious abnormalities in their lungs or hearts.

A new symptom of long covid

Compounding the complexities, few people with long covid showed precisely the same patterns of physiological changes, though, and some seemed much less affected by exertion than others.

Still, one takeaway of the new study is that exercise intolerance “should be considered a symptom” of long covid, Durstenfeld said.

Another is that people with long covid may want to consider exercise testing, said Stephen J. Carter, a cardiovascular physiologist at Indiana University Bloomington School of Public Health, who has studied people with long covid but was not involved with the new review.

“If individuals are having trouble exercising, consultation with their physician about a cardiopulmonary exercise test would be an important starting point,” he said. “These tests offer a noninvasive way of identifying where the exercise limitation may be coming from.”

Visiting a clinic that specializes in long covid and is familiar with exercise intolerance could be worthwhile as well, Durstenfeld said.

“We don’t yet know the trajectory” of long covid and exercise intolerance, he continued, or how long the condition lasts, whether it can be treated or if it may slowly resolve on its own. But the long-term goal of his and other research, he said, is to help people with long covid eventually find ways to become active again.

Do you have a fitness question? Email YourMove@washpost.com and we may answer your question in a future column.