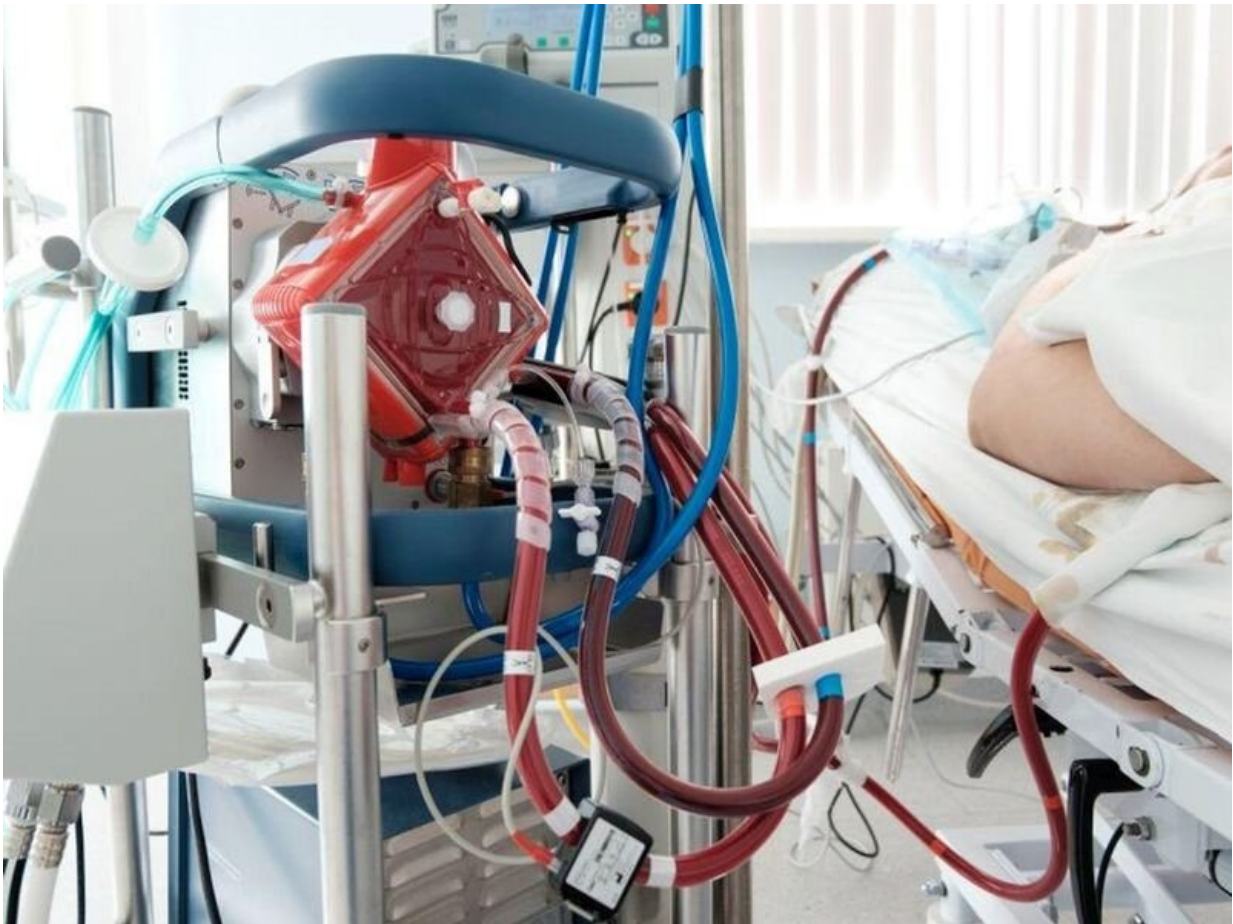


# Coronavirus takes aim at fat cells, study shows

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(HealthDay)—The coronavirus appears to target both fat cells and

certain immune cells within body fat, which may explain why overweight and obese people are more likely to develop severe COVID-19, researchers report.

When the virus gets into those cells, it triggers a damaging inflammatory response that "could well be contributing to severe disease," study co-senior author Dr. Catherine Blish, a professor at Stanford University Medical Center, told *The New York Times*. "We're seeing the same [inflammatory cytokines](#) that I see in the blood of the really sick patients being produced in response to infection of those tissues."

The findings were posted online recently, but they have not been peer-reviewed or published in a scientific journal.

The results, gleaned from experiments with fat tissue obtained from weight-loss surgery patients, could point to new COVID-19 treatments that target [body fat](#), experts said.

"Maybe that's the Achilles' heel that the virus utilizes to evade our protective immune responses—by hiding in this place," said Dr. Vishwa Deep Dixit, a professor of comparative medicine and immunology at Yale School of Medicine, told the *Times*.

used to be thought of as simply a form of storage. But it turns out that the tissue produces hormones and immune-system proteins that act on other cells, triggering low levels of inflammation even when there is no infection.

The latest findings may prove particularly important in the United States, where the obesity rate is among the [highest](#) in the world. Most American adults are overweight, and 42 percent are obese. Black, Hispanic, Native American and Alaska Native people have higher obesity rates than white adults and Asian Americans, and they have also seen death rates roughly double those of white Americans.

"The bottom line is, 'Oh my god, indeed, the virus can infect [fat cells](#) directly,'" said Dr. Philipp Scherer, a scientist who studies fat [cells](#) at UT Southwestern Medical Center in Dallas, told the *Times*. He was not involved in the research.

"Whatever happens in fat doesn't stay in fat," Scherer explained. "It affects the neighboring tissues as well."

Another expert said [public health officials](#) should heed the findings.

"This paper is another wake-up call for the medical profession and public health to look more deeply into the issues of overweight and obese individuals, and the treatments and vaccines we're giving them," Barry Popkin, a professor of nutrition at University of North Carolina who has studied the risk of severe COVID-19 among the obese.

"We keep documenting the risk they have, but we still aren't addressing it," Popkin added.

Blish and her colleagues speculated that infected body fat may even contribute to "long COVID," a condition describing troublesome symptoms like fatigue that persist for weeks or months after recovery from a COVID-19 infection.

**More information:** Visit the U.S. Centers for Disease Control and Prevention for more on [COVID-19](#).

Giovanny J. Martínez-Colón et al, SARS-CoV-2 infects human adipose tissue and elicits an inflammatory response consistent with severe COVID-19, *bioRxiv* (2021). [DOI: 10.1101/2021.10.24.465626](https://doi.org/10.1101/2021.10.24.465626)

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