Are Some People Protected from COVID-19?

Months into the coronavirus pandemic, most of us have heard stories about the wide variety of responses among COVID-19 stricken patients, even those living under the same roof.

Does this mean some people have natural protection against the novel coronavirus?

We might – just not in the way we think, says Bhavarth Shukla, M.D., M.P.H., medical director of infection control at the University of Miami Health System.

“There are so many variables [in this disease],” says Dr. Shukla, “and there’s still much we don’t know about it.” In other words, we’re still trying to fill in the wide gaps in our knowledge of how our immune system reacts to the virus and why that reaction can vary so much.

Several factors probably determine why the severity of the illness is so different from patient to patient, he says, and past infections may help our immune system recognize an old foe. We do know that certain underlying conditions – age, diabetes, kidney or lung disease, cancer, cardiovascular disease, and obesity – put people at a higher risk of a worse outcome.

COVID-19 also has proven to be more fatal for people of color.

Yet the possibility (and the hope) that a few of us might have a form of immunity to the virus is serving as a line of questioning for researchers. Several studies have revealed that some of us have immune cells that recognize parts of SAR-CoV-2
because of past coronavirus infections. This recognition may give us a leg up in battling the new infection and may explain why some people are asymptomatic while others end up hospitalized on ventilators.

Coronaviruses, Dr. Shukla says, have been around for decades. The common cold, for instance, is a coronavirus. But we don’t yet know if a lifelong exposure to all those pesky colds might help fight off COVID-19.

So far, there’s been good movement on that front. In one study recently published in the journal Cell, researchers tested old blood samples – all taken before COVID-19 surfaced. They discovered T cells that recognized and fought specific proteins on the surface of the new coronavirus. T cells, a kind of immune cell, are individualized to fight particular pathogens. In fact, there are trillions of them, and they tend to stay in the blood for years, creating a kind of immune memory that enables our bodies to build a more robust and faster response when a former pathogen or one of its cousins attacks again.

Scientists have also found that while people can test negative for antibodies against Covid-19, they can test positive for T cells that identify the virus. This also may translate into some immunity against the disease. (T-cell immunity can occur independently of antibodies.)

**Why do our bodies’ have different reactions to COVID-19?**

It’s essential to understand the immune system and its star players. When we encounter a virus, bacteria, parasite, or other germs, the body immediately produces specific proteins and chemicals to destroy the invading foe. One type of white blood cell – the B lymphocytes – is like a good cop, patrolling our body to catch and stop the bad guys from taking over. The B cells also signal the T lymphocytes to help kill off the pathogen. After that battle, our bodies produce antibodies that provide long-
term protection for most similar illnesses.

Scientists researching COVID-19 are particularly interested in T cells because they are instrumental in helping fight off future infections. Focusing on this specialized T cell immunity bodes well for the battle against the novel coronavirus, Dr. Shukla adds.

“The speed with which we’re conducting research is incredible,” he says.

“So much is going on at the same time that we’re finding out a lot [about this virus] in record time.”

But he also issues a word of warning: We shouldn’t take any chances, no matter how many colds or flu bouts we’ve fought off. Even those who have previously contracted COVID-19 shouldn’t let their guard down, as scientists don’t know how long immunity will last. “We’re still in the very early stages of this,” he explains.

And those stories about family members who test positive while others never get the virus? The narrative may not tell the entire story. “When you talk to them and get more details, you find out that the [uninfected] person began to self-isolate once the other one was exposed or began to show symptoms,” Dr. Shukla adds. “They slept in different bedrooms, they kept to another side of the house, and there was an intense focus on hand hygiene. Which shows these measures can work.”

For now, he recommends we stick to what we know does work. Wash your hands. Wear your masks. And keep six feet from others.
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Are you reading the research?

With the coronavirus threatening our health, safety, and economy, it’s not surprising that more laypeople are reading scientific studies for the first time. Given the 24/7 news cycle, they have plenty of information at their fingertips. Here are some tips to cut through the noise.