

Is COVID-19 'One and done?' experts ponder odds for reinfection

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(HealthDay)—Let's say you're one of the more than 1.7 million people

in the United States who've contracted COVID-19, and you've been fortunate enough to shake off the virus and recover.

What happens when you encounter the COVID-19 [coronavirus](#) again?

Reinfection is a major concern among public health officials as the nation moves toward reopening the economy.

"We'd love to think we're basically one-and-done with this virus, so that if you're infected with the virus, you develop [antibodies](#) and the next time you encounter the virus it takes it and it removes it from your body," Jeffrey Shaman, director of the Columbia University Climate and Public Health Program, said during a [live.healthday.com/hd-live-cor...aman-2646047190.html](#)" target="_new">HealthDay Live! interview.

Researchers wonder whether a recovered COVID-19 patient could contract the virus again and, if so, whether a second round of infection would be milder—or even more debilitating.

At this point, these are questions "I need to answer by looking at my crystal ball," said Dr. Waleed Javaid, director of infection prevention and control at Mount Sinai Downtown in New York City.

Is it really reinfection?

Scattered studies have found the presence of COVID-19 in the bloodstream of people who appeared to have recovered, Shaman said.

But it's not clear whether this is an actual reinfection or something else.

"We've seen this over and over again, where people who we really thought were cleared and had tested negative are testing positive subsequently," Shaman said. "We haven't found really definitive

evidence it is a repeat infection for these individuals."

There are a couple of alternative explanations for these cases that have to be ruled out before one can say people are being reinfected with COVID-19, said Dr. Greg Poland, director of the Vaccine Research Group at the Mayo Clinic in Rochester, Minn.

The virus tests people are using might be picking up on residual genetic material from the defeated coronavirus, rather than actual infection, Poland said.

It also might be that the coronavirus lingers longer in the system than previously known, and later tests detect viral evidence not found right after a person's recovery, he added.

"What we can say that is our knowledge of immunity to COVID-19 is only 18-ish weeks long," Poland said. "We have no mid- or long-term data. None."

Looking at the six other known coronaviruses for clues about COVID-19 can be frustrating because immune responses vary widely.

The four coronaviruses that cause the common cold can flout your immune system relatively easily.

"With the four seasonal coronaviruses that circulate most every winter, protection lasts as little as 80 days to as long as a year or two, maybe three," Poland said.

"About 90% of the population has antibodies for each of those four coronaviruses, but we get them repeatedly," Shaman said. "We have evidence to show that people get repeat infections by these coronaviruses, which is very concerning. It means they're getting them

over and over again in spite of some antibodies that have developed."

Does mutation matter?

The two pandemic coronaviruses, SARS and MERS, do prompt the creation of antibodies that linger in the bloodstream for two to three years, Poland said.

But both of these coronaviruses petered out before researchers could gain a clear understanding of whether the antibodies would protect people against future infections, Poland added.

Studies of COVID-19 survivors have found the presence of neutralizing antibodies in their blood, the kind that would block the virus from infecting human cells. But it's not known whether there are enough antibodies created to fend off future coronavirus attacks.

"Is reinfection likely? I think yes," Poland said. "It is likely to be as severe? I'm going to guess no, unless—and this is the big boogeyman—the virus mutates. And it does slowly mutate."

A mutated form of the COVID-19 coronavirus would be able to brush past antibodies created to fight off the current strains sweeping the nation.

The good news is that the coronavirus is genetically very unlikely to mutate in the way that the flu does, Javaid said.

The flu virus has broken RNA that promotes rapid mutation, which is why annual flu shots are needed to provide even partial protection, Javaid said.

"For coronavirus, the genetic material is a single strand," Javaid said.

"The ability for the flu virus to mutate is much higher."

"What we don't know about this specific [virus](#) is if it would change enough that we wouldn't have any protection," Javaid said. "If it doesn't change, we will be protected for the time that our antibodies stay with our bodies. If it changes substantially, we may be subject to reinfection and severe illness, although the likelihood of this scenario is substantially less."

More information: The U.S. Centers for Disease Control and Prevention have more about [COVID-19](#).

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