

You've had COVID-19. Do you get a free pass for a while?

February 4 2022, by Eva Botkin-Kowacki



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Testing has become a vital tool for people navigating semi-normal life as the pandemic drags on. We're learning how and when to test ourselves for the virus that causes COVID-19 to minimize the risk of spreading it



when traveling, visiting family, or going to sporting events or concerts.

But for those who have contracted, and recovered from, COVID-19, the public health guidance is to skip testing for 90 days, unless you have symptoms. That's because there's a chance that you might falsely <u>test</u> positive.

What is going on in your body during those 90 days?

"There's pretty clear evidence now that even after individuals are no longer infectious, there are remnants of viral genetic material in the nasal passages that can be picked up by PCR tests as far out as three months after infection," explains Neil Maniar, director of the master of public health program, associate chair of the department of health sciences, and professor of public health practice at Northeastern.

However, after the U.S. Centers for Disease Control and Prevention changed their quarantine guidelines to five days for people whose symptoms and fever have subsided, many public health experts advocated for adding a test-out component to that shortened timeline. So could you end up stuck in quarantine longer than necessary because of a false positive test?

That's unlikely, Maniar says, because the recommendation is to test-out using an antigen test (that's what the majority of at-home tests are) rather than a <u>polymerase chain reaction</u> (PCR) test. PCR tests are highly sensitive and detect the genetic material (in this case, RNA) of the virus, which is why they might pick up any lingering inactive viral bits after an infection has subsided.

Antigen tests detect proteins and are less sensitive, which means that they require more of the virus to be present—and a positive may mean the virus is actively replicating in your body. So if you test positive on an



antigen test, you're probably not out of the woods yet.

Another reason the CDC advises against asymptomatic testing for 90 days after having COVID-19 is that if you are infected, your immune system is going to generate antibodies, so your immunity to the virus will be boosted, says Mansoor Amiji, university distinguished professor of pharmaceutical sciences and chemical engineering at Northeastern.

Essentially, since your body has recent experience fighting the virus, its defenses are primed.

"The part that is not clear is how rapidly that decline occurs in the antibody levels," Amiji says. "Initially, yes, you would be protected from a second infection, but if that decline in antibody levels is rapid from the infection, then you may not necessarily have enough of the antibodies to prevent a second infection."

Another wrinkle: If another variant of the coronavirus sweeps through, the antibodies generated by your initial infection might not be as effective against the new variant, Amiji adds.

In other words, you might not get a free pass for 90 days.

There's a lot of variability across those three months, Maniar says. Take the scenario in which someone tested positive for COVID-19 on Jan. 1, for example. Their 90-day-period would end on April 1. If they test positive on a PCR test in late January, well after their symptoms ended (and they don't currently have any symptoms), it's likely that the test simply picked up remnants of the initial infection. They might decide to back it up with an <u>antigen test</u>.

But, Maniar says, if they test positive on, say, March 30, it's probably a new infection—especially if they're symptomatic. "It gets a little fuzzy



as you get around that 90-day mark," he says.

The tricky thing, Maniar says, is that "individual circumstances play a big role in this. It's not a one-size-fits-all approach."

"Navigating the current situation is so challenging," he says. Public <u>health</u> guidelines change as scientists learn more about the virus, the vaccines, and <u>infection</u>-induced immunity—and as the <u>virus</u> mutates, too. Maniar suggests keeping up-to-date on the latest guidelines, and says, "We have the right tools to help us navigate this."

Provided by Northeastern University

Citation: You've had COVID-19. Do you get a free pass for a while? (2022, February 4) retrieved 6 May 2024 from <u>https://medicalxpress.com/news/2022-02-youve-covid-free.html</u>

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