



# What doctors wish patients knew about COVID-19 reinfection

JAN 20, 2023

**Sara Berg, MS**

Senior News Writer

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At this point in the pandemic, almost everyone in the U.S. has had COVID-19—whether they know it or not. But something more alarming is happening: A growing number of people are getting reinfected with SARS-CoV-2.

While many people assumed that getting infected meant higher protection from future encounters with the virus, the latest wave of COVID-19 cases shows that reinfections are becoming more common with newer variants—such as the XBB.1.5 subvariant of Omicron—contributing to second or even third infections. And as SARS-CoV-2 continues to evolve and behave more like its closely related cousins that cause common colds and infect people repeatedly throughout their lives, physicians are urging patients not to let their guards down.

The AMA's What Doctors Wish Patients Knew™ series provides physicians with a platform to share what they want patients to understand about today's health care headlines, especially throughout the COVID-19 pandemic.

In this installment, two physicians took time to discuss what patients need to know about COVID-19 reinfection. They are:

- Nancy Crum, MD, an infectious disease physician at Avita Health System in Galion, Ohio. Dr. Crum is also an alternate delegate in the AMA House of Delegates for the Infectious Diseases Society of America.
- Rambod A. Rouhbakhsh, MD, a faculty physician and program director at the Forrest General Hospital Family Medicine Residency Program and the principal investigator for Hattiesburg Clinic MediSync Clinical Research. Hattiesburg Clinic is a member of the AMA Health System Program.

## Reinfection is problematic

“It can be problematic if you are reinfected,” Dr. Rouhbakhsh said. “We know from a pretty elegant study that was recently published in *Nature Medicine* that each subsequent COVID infection will increase your risk of developing chronic health issues like diabetes, kidney disease, organ failure and even mental health problems.”

Such evidence “dispels the myth that repeated brushes with the virus are mild and you don’t have to worry about it,” he added, noting that “it is akin to playing Russian roulette.”

That is why “you want to try to avoid reinfection if possible. That should not be the mechanism by which you aspire to get immunity from the virus,” Dr. Rouhbakhsh said.

## New COVID-19 variants play a role

“The virus is constantly changing, similar to what the flu viruses do and similar to all the things that give us our typical colds. They adapt, they have new variants that emerge, and these can cause reinfection,” said Dr. Rouhbakhsh. “Omicron has really been an efficient spreader of disease with its subvariants becoming particularly good at evading what protection we already have from previous infection or vaccines.”

Now, at this stage of the pandemic, “we have some epidemiologic data that there are some BQ subvariants of Omicron in the U.S. and that’s BQ.1 and an offshoot called BQ.1.1,” he said. “These are descendants of the BA.5 Omicron subvariant and they have some mutations on the spike protein that help it evade immunity created by both vaccines and previous infection.”

## There is waning immunity

“It’s also related to waning immunity that—even if we’ve had COVID-19 before or even though we’ve gotten vaccinated—those new strains may no longer be as protected against the newer strains,” Dr. Crum said. “As we went from the Alpha to Delta to Omicron, we have reduced our ability to prevent reinfection and so we can get infected again.”

“There are some viruses—like hepatitis B, for example—that if we get the virus once in our life, we’re protected for the rest of our lives,” she said. “But other viruses, particularly the respiratory viruses like influenza and now SARS-CoV-2, they continue to mutate in a way that we can get those types of viruses over and over again because the strain changes and we aren’t necessarily protected against that new strain.”

## COVID-19 vaccination can help

“If you're not vaccinated, you're more likely to get reinfected again and again because vaccine prevents some infections from occurring,” said Dr. Crum, noting that “one of the misperceptions is that vaccines will 100% prevent you from getting an infection ever in your life.

“This is not what the vaccines really were made for. Although they can protect against reinfection, the vaccines were really made to prevent severe disease,” she added. “Further, they were made for a specific strain, and as that strain changes, the vaccines have to be updated.”

“Every time someone gets infected and reinfected again, that gives the virus an opportunity to mutate,” Dr. Crum said. “In my clinic, I've seen lots of patients who have been infected with COVID three, four, five times. Almost all those patients are unvaccinated and who desire not to get vaccinated.”

“It is these very reinfection events that are giving the virus the opportunity to mutate and form new variants, and cause yet more reinfection events,” she said.

## Risk of reinfection varies

“We do know that the chances of reinfection are less if you're fully vaccinated, meaning primary series booster and then the bivalent,” said Dr. Rouhbakhsh, adding that chances of reinfection are also “less likely if you have had an infection and if you've had an infection and been fully vaccinated.”

A person's chances of reinfection also depend “on where you live and what the community level of circulating viruses are,” Dr. Crum said. Additionally, “it depends on what the variants are and if the variants are going to change and become more effective at infecting people.”

“It also depends on your exposures. Do you stay at home all the time away from people or are you working at a counter at a busy grocery store?” she said, noting “each person's risk of reinfection is very different, and the rate of reinfection will change over time and is very geographically dependent.”

Additionally, “you're at higher risk if you're older, if you're younger, if you have chronic disease,” Dr. Rouhbakhsh said. “We do know there is a perplexing association with people with obesity and diabetes in terms of not only getting the disease but having worse consequences associated with it.”

“You don't have to let this dominate your life the way it did last year or the year before, but it's reasonable to take stock of your personal risk factors,” he said.

## There is a connection with long COVID

“There are a lot of things that go into long COVID that we don’t really know about or are still learning ... we can’t really say what the implications are just yet,” Dr. Rouhbakhsh said. “We do think, however, you’re less likely to get long COVID the less you are infected.”

“There are some studies that have suggested that the more times you get reinfected, the more likely you’re going to develop long COVID,” said Dr. Crum, noting “there was a recent study out of Washington University School of Medicine in St. Louis that looked at this question. They studied over 5 million veterans and dependents through a VA system.

“What they looked at is people who got COVID-19 once or people who got COVID more than once, and they compared the medical outcomes of those groups,” she added. “And what we do know is the more times you get COVID, the more likely you are going to get a possible complication, be it lung complication, heart complication or mental health problems.”

“We should prevent reinfections as best as we possibly can because the more times people get infected, the more likely their health is going to suffer from medical conditions that can really involve any organ system in the body,” Dr. Crum said.

## The COVID-19 bivalent vaccine is key

“We do know that the updated vaccine should reduce your chances of getting reinfected and developing long COVID or long-term complications from the virus,” said Dr. Rouhbakhsh. “The bottom line is, if you get vaccinated, you are less likely to get sick, less likely to wind up in the hospital.”

But, unfortunately, while about 70% of eligible people in the United States have gotten the primary series, the COVID-19 bivalent boosters “are very much lagging compared to other countries,” he explained. “We’re at about 11% that have gotten the bivalent booster compared to the UK where it’s about 70% who have gotten the bivalent booster.”

“Getting the bivalent vaccine is what we recommend for all people to try to prevent reinfections because it’s closer to the current circulating viruses,” said Dr. Crum. “We recommend that everybody who doesn’t have a definitive contraindication for the vaccine to get it and not to wait.”

“If you are eligible, please get vaccinated. That’s probably the number one thing you can do to protect yourself and others,” Dr. Rouhbakhsh emphasized.

## Mask up in high-risk situations

“The good news is we know a lot more about how to protect ourselves than we did early on when we were frantic about washing everything, including sanitizing our groceries and every countertop,” said Dr. Rouhbakhsh. “We don’t need to worry about that as much now that we have extra knowledge about how this virus works.”

“My advice would be to take care of yourself with extra precautions when you go into high-risk events,” he said. “So, if you’re going to be traveling with hundreds or thousands of people in close proximity, that’s a good time to get a good-fitting mask like a KN95 or an N95 to decrease your risk of transmission.”

“Masks really do help and if you get into a high-risk situation, it’s worthwhile to consider masking or at least prescreening yourself and the participants with testing,” Dr. Rouhbakhsh said.

## Immunocompromised should be concerned

“Because the viruses are continuing to circulate ... they’re continuing to mutate and immunosuppressed patients have a higher risk of adverse outcomes if they get reinfected,” said Dr. Crum.

“We also know they don’t respond as well to the vaccines,” she said, adding that with “the immunosuppressed, we still need to be concerned even if they’re vaccinated—our guard needs to remain up.”

## Testing remains important

“If you’re getting together in a big gathering, say a wedding, graduation or big holiday event with lots of family members, it’s also a good idea to get tested and ask people to get tested,” Dr. Rouhbakhsh said. “Now that tests are ubiquitous, you can pre-screen yourself before you get together if you don’t want to get together with masks on.”

With the threat of a “tripledeemic” of COVID-19, influenza and RSV infection, “it is important to get tested if you have symptoms,” said Dr. Crum, noting that “we have treatment for two of the three viruses. We have treatment for influenza, and we have treatment for COVID-19.”

“It’s really important to know what you have and how long you should then isolate yourself to protect others,” Dr. Crum said. “There’s no clinical way you can tell the difference between these three. The way we would really want to define what you have is based on PCR or other laboratory testing.”

## **The pandemic is not over yet**

“Although we would all like to forget about the last couple years, we really simply can't,” Dr. Crum said. “We still need to keep this in the forefront of our attention because it certainly deserves to be there given the ongoing community rates that we're seeing throughout the country.”

“Even though there is a momentum to forget about it and to move on, that's not the safest and healthiest thing for our country or ourselves or our patients,” she said. “We need to keep talking about it.”

“We are getting into a space where we appropriately have more freedoms and that’s fantastic. I would just remind my patients that we have more knowledge, and that knowledge can be power if we use it,” said Dr. Rouhbakhsh.