



# COVID-19 Questions: What's New and What's Coming

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The medical community has made incredible progress in our knowledge and management of the COVID-19 pandemic. Our understanding continues to evolve as new information is established and new data is reviewed. Despite all we've learned, many COVID-19 questions remain. These answers are more important with new variants and winter surges expected.

## Likely Winter Surge?

History and forecasts indicate that surges are likely in the winter. January 2022 saw the highest peak so far driven by the rapid spread of the Omicron variant. The very contagious Omicron variant was the driving factor of that surge, but weather conditions continue to make winter surges very likely.

People are more susceptible to respiratory illnesses like colds and flu in the winter. Drier air allows viruses to spread more easily, and the cold weather drives more people to gather inside where catching the virus is much more likely. Experts continue to recommend outdoor gatherings as the safest option.

Of course, being outdoors is less appealing in the colder months. Improving indoor ventilation and filtration can reduce virus particles in your home and keep COVID-19 and other viruses from spreading. Throwing open the windows in January may not be a comfortable option in some regions but could work on more temperate days.<sup>1</sup>

While future winter surges may not always be as extreme as 2022, we should prepare for increased cases driven by winter conditions and possibly new variants (like we've seen already with Omicron subvariant BA.5). The CDC recommends wearing masks indoors in areas with high community levels of infection and always keeping current with your vaccinations. This means a full primary series and one or two boosters as recommended by age group.<sup>2</sup>

## When to Quarantine or Isolate?

The guidance around what to do if you're exposed or test positive for COVID-19 has changed since the start of the pandemic but has been relatively consistent in 2022. However, what to do depends on vaccination status and whether you have symptoms. Generally, if you are up to date on vaccinations, you do not need to quarantine after exposure *unless you develop symptoms*. You should take a COVID-19 test at least five days after exposure or if you develop symptoms.

Regardless of vaccination status, if you test positive for COVID-19 or have symptoms, you should isolate from others for at least five days and wear a mask around others for 10 days. If you have symptoms, you should continue to isolate until you are fever-free for 24 hours and notice symptoms improving.

The CDC offers a ["Quarantine and Isolation Calculator"](#) to help determine the right action for your situation. These steps are important to reduce the spread of the disease and keep those around you safe.<sup>3</sup>

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<sup>1</sup> [Centers for Disease Control and Prevention](#), "Improving Ventilation in Your Home"

<sup>2</sup> [Centers for Disease Control and Prevention](#), "Stay Up to Date with Your COVID-19 Vaccines"

<sup>3</sup> [Centers for Disease Control and Prevention](#), "Quarantine and Isolation"

## What Does Waning Immunity Mean?

COVID-19 vaccines have been widely available since early 2021 and about 83% of Americans have had at least one dose and about half have received two doses and a booster as recommended.<sup>4</sup> One report estimated that the vaccines have prevented over 2 million deaths and 17 million hospitalizations in the U.S. as of March 2022.<sup>5</sup>

Despite this incredible success, there's a lot of talk about "breakthrough infections" and "waning immunity." This doesn't mean vaccines aren't effective. There are often two points when discussing vaccine effectiveness: protection against infection and protection against serious illness. **The main goal of the vaccines has always been to prevent serious illness, hospitalization and death.** They have and continue to do that exceedingly well.

The protection against infection, catching COVID-19 at all, was initially very strong against variants before Omicron. This wasn't the primary goal of the vaccines but was a very welcome bonus. This protection does weaken over time since the last dose and isn't 100% which can lead to the so-called "breakthrough infections." But vaccinated people who do catch COVID-19 are much less likely to experience severe symptoms than people who are unvaccinated.<sup>6</sup>

The term "breakthrough infection" does not imply that the vaccine has somehow failed to do its job. Breakthrough infections happen with all vaccines. You are still strongly protected against severe illness and death from COVID-19. New variants like Omicron and its offshoots are leading to more breakthrough infections with the current vaccine, but new versions of the vaccine are on the horizon to provide better protection.<sup>7</sup>

## What About Emerging Variants & Vaccines?

A new Omicron subvariant, BA.5, led to another wave of infections in summer 2022, particularly in southern states. Researchers have identified three key mutations that make it both better at infecting our cells and evading the immune protections of vaccines and prior infection. Current data indicates that while BA.5 may be even more easily spread, it does not appear to cause more severe disease, and vaccines are still expected to provide strong protection against serious illness.<sup>8</sup>

Fortunately, we have better tools than at the start of the pandemic. Researchers are working on updating the "blueprint" of the previous mRNA vaccines that would offer more protection against new variants. The hope is to have this variant-specific booster ready for fall 2022.<sup>9</sup>

Until then, health officials are urging people to get vaccinated and boosted and take precautions in high-risk settings. High-quality, well-fitting masks like N95 or KN95 continue to provide protection against all variants, including these Omicron subvariants, and are now widely available to everyone, not just frontline workers.<sup>10</sup> Officials advise that getting a booster in the summer would still allow you to get an updated shot in the fall.<sup>11</sup>

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<sup>4</sup> [Centers for Disease Control and Prevention](#), "Vaccines for COVID-19"

<sup>5</sup> [The Commonwealth Fund](#), "Impact of U.S. COVID-19 Vaccination Efforts: An Update on Averted Deaths, Hospitalizations, and Health Care Costs Through March 2022"

<sup>6</sup> [Centers for Disease Control and Prevention](#), "COVID-19 after Vaccination: Possible Breakthrough Infection"

<sup>7</sup> [American Medical Association](#), "What Doctors Wish Patients Knew About Breakthrough COVID Infections"

<sup>8</sup> [CNN](#), "Why the Omicron Offshoot BA.5 Is a Big Deal"

<sup>9</sup> [CNN](#), "New Coronavirus Subvariants Escape Antibodies from Vaccination and Prior Omicron Infection, Studies Suggest"

<sup>10</sup> [Centers for Disease Control and Prevention](#), "Omicron Variant: What You Need to Know"

<sup>11</sup> [CNN](#), "Why the Omicron Offshoot BA.5 Is a Big Deal"

COVID-19 vaccines have ushered in a new phase of the pandemic, though it may not be the last one. They have prevented countless deaths and allowed many to return to something resembling pre-pandemic life. But the pandemic is not over, and new variants will require new tools, new understanding, and for many, renewed caution and patience. The good news is that we have more answers to COVID-19 questions and many more options to keep people safe.