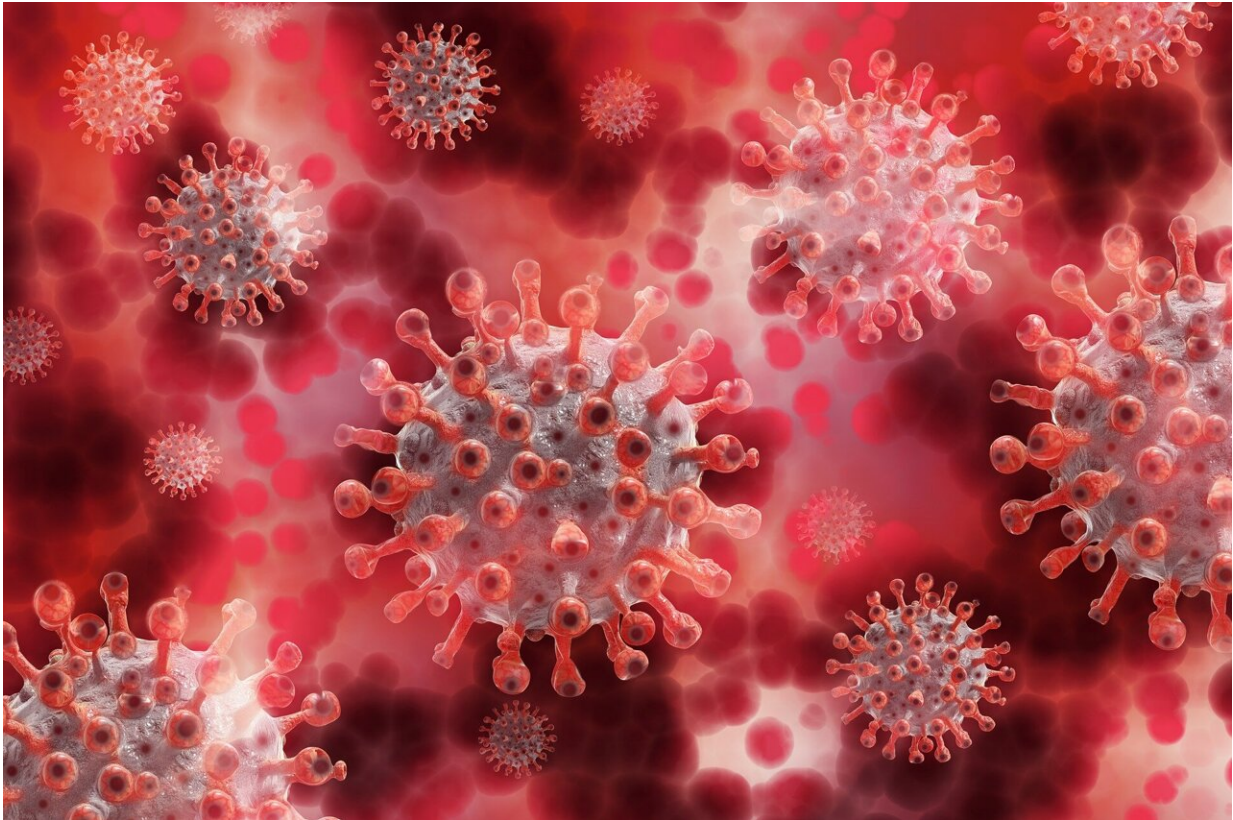


Q and A: New variants of COVID-19

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DEAR MAYO CLINIC: Cases of COVID-19 are once again surging in parts of the U.S., and I'm hearing about different strains, such as the BA.5 and BA2.75 omicron subvariants. What do I need to do to keep my family safe, especially as I prepare to send my kids back to school? My children and I have received two doses of a COVID-19 vaccine and a

booster vaccination.

ANSWER: Infections in the U.S. continue to rise, as COVID-19 continues to evolve and change. Omicron is a variant of COVID-19. A variant is a mutation that occurs in the virus over time.

Omicron BA.5 is causing an estimated 82% of COVID-19 cases in the U.S., according to the Centers for Disease Control and Prevention (CDC). BA.5 has properties associated with increased transmission of the virus, which is why it's become so prevalent in the U.S. and globally. It also has some properties of what we call "immune evasion" that allows the virus to sidestep some of the prior immunity from vaccination, a prior infection or both. What that means is if you have been previously infected or vaccinated, you may have reduced protection against being infected with BA.5 and developing mild to moderate illness.

While BA.5 may be the most dominant strain, it is not the only one public health officials are monitoring. Another subvariant known as BA.2.75, also unofficially known as Centaurus, is being monitored by the World Health Organization (WHO) and the CDC. Since it was detected in India in May, cases of BA.2.75 have been reported in more than a dozen countries.

BA.2.75 has multiple mutations in the gene encoding for the spike protein of the virus. That is the part of the virus that sticks out and binds to the host cell receptor. Those mutations allow the virus to bind to that receptor more efficiently, meaning it can infect human cells better. And it also has mutations that may make your antibodies, which are generated in response to vaccination, less able to bind or neutralize the virus. Once again, there is some concern that this virus may be able to spread quicker and evade immunity from vaccination or prior infection.

While this strain is currently causing a low number of infections in the

U.S., that could change over the near future. That's because BA.2.75 seems to more efficiently spread from person to person. No solid data suggest that it causes more severe disease, but it's important to point out that as more people are infected, even with a less virulent strain, the chances that the virus will infect someone who is more susceptible to severe infection increases. Those who are immunocompromised could still end up with [severe disease](#) and be hospitalized. It is a concern whenever a virus can infect people at a higher rate because the chances that the virus will infect a person who is highly susceptible to worse outcomes then increases.

Looking ahead as children across the nation ready for the return to the classroom, it is going to be important to keep an eye on the rate of [infection](#). The fact that many children have already received their COVID-19 vaccination is a good thing, but I would be mindful about continuing with safety protocols as kids head back to school. There definitely is a concern that as we move into the fall and winter months of 2022, and then into 2023, that the new strains of the [virus](#), including BA.27.5, may cause an increased number of infections.

I also recommend that you speak to your health care team about whether you might qualify to receive an additional booster vaccination. Depending on your health history and risk factors, you may be eligible. Vaccination for COVID-19 is still the best way to reduce infections, hospitalizations and deaths.

In the meantime, continue to practice [safety measures](#), including practicing good hand hygiene, and wearing a mask when around someone who is ill, in large crowds or if you know you have been exposed. Also, keep a close eye on the booster vaccination recommendations from the CDC and WHO. It is likely that coming into the fall and winter months of this year, there may be a reformulated COVID-19 [vaccine](#) available that people will have access to that will

hopefully provide better protection against some of the newer strains of COVID-19.

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