

Even after vaccination, masks are needed

Immune people may still spread the virus

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As an emergency physician, Dr. Eugenia South was in the first group of people to receive a COVID-19 vaccine. She received her second dose last week – even before President-elect Joe Biden.

Yet South said she's in no rush to throw away her face mask.

"I honestly don't think I'll ever go without a mask at work again," said South, faculty director of the Urban Health Lab at the University of Pennsylvania in Philadelphia. "I don't think I'll ever feel safe doing that."

And although vaccines are highly effective, South plans to continue wearing her mask outside the hospital as well.

Health experts say there are good reasons to follow her example.

"Masks and social distancing will need to continue into the foreseeable future – until we have some level of herd immunity," said Dr. Preeti Malani, chief health officer at the University of Michigan. "Masks and distancing are here to stay."

Malani and other health experts explained five reasons Americans should hold on to their masks:

1. No vaccine is 100% effective

Large clinical trials found that two doses of the Moderna and Pfizer-BioNTech vaccines prevented 95% of illnesses caused by the coronavirus. While those results are impressive, 1 in 20 people are left unprotected, said Dr. Tom Frieden, a former director of the Centers for Disease Control and Prevention.

Malani notes that vaccines were tested in controlled clinical trials at top medical centers, under optimal conditions.

In the real world, vaccines are usually slightly less effective. Scientists use specific terms to describe the phenomenon. They refer to the protection offered by vaccines in clinical trials as "efficacy," while the actual immunity seen in a vaccinated population is "effectiveness."

The effectiveness of COVID-19 vaccines could be affected by the way they're handled, Malani said. The genetic material used in mRNA vaccines – made with messenger RNA from the coronavirus – is so fragile that it has to be carefully stored and transported. Any variation from the CDC's strict guidance could influence how well vaccines work, Malani said.

2. Vaccines don't provide immediate protection

No vaccine is effective right away,



Experts say the best way to fight the pandemic is to combine vaccines with mask use and social distancing. GETTY IMAGES

Malani said. It takes about two weeks for the immune system to make the antibodies that block viral infections.

COVID-19 vaccines will take longer than other inoculations, such as the flu shot, because both the Moderna and Pfizer products require two doses. The Pfizer shots are given three weeks apart; the Moderna shots, four weeks apart.

3. Vaccines may not prevent you from spreading the coronavirus

Vaccines can provide two levels of protection. The measles vaccine prevents viruses from causing infection, so vaccinated people don't spread the infection or develop symptoms.

Most other vaccines – including flu shots – prevent people from becoming sick but not from becoming infected or passing the virus to others, said Dr. Paul Offit, who advises the National Institutes of Health and Food and Drug Administration on COVID-19 vaccines.

While the vaccines clearly prevent illness, researchers need more time to figure out whether they prevent transmission, too, said Phoenix-based epidemiologist Saskia Popescu, an assistant professor in the biodefense program at George Mason University's Schar School of Policy and Government.

"We don't yet know if the vaccine protects against infection or only against illness," said Frieden, now CEO of Resolve to Save Lives, a global public health initiative. "In other words, a vaccinated person might still be able to spread the virus, even if they don't feel sick."

4. Masks protect people with compromised immune systems

People with cancer are at particular risk from the coronavirus. Studies show they're more likely than others to become infected and die from the virus, but may not be protected by vaccines, said Dr. Gary Lyman, a professor at Fred Hutchinson Cancer Research Center.

Cancer patients are vulnerable in multiple ways. People with lung cancer are less able to fight off pneumonia, while those undergoing chemotherapy or radiation treatment have weakened immune systems. Leukemia and lymphoma attack immune cells directly, which makes it harder for patients to fight off the virus.

Doctors don't know much about how people with cancer will respond to vaccines because they were excluded from randomized trials, Lyman said. Only a handful of study participants were diagnosed with cancer after enrolling. Among those people, vaccines protected only 76%.

Although the vaccines appear safe, "prior studies with other vaccines raise concerns that immunosuppressed patients, including cancer patients, may not mount as great an immune response as healthy patients," Lyman said. "For now, we should assume that patients with cancer may not experience the 95% efficacy."

Some people aren't able to be vaccinated.

While most people with allergies can receive COVID-19 vaccines safely, the CDC advises those who have had severe

allergic reactions to vaccine ingredients, including polyethylene glycol, to avoid vaccination. The agency also warns people who have had dangerous allergic reactions to a first vaccine dose to skip the second.

Lyman encourages people to continue wearing masks to protect those with cancer and others who won't be fully protected.

5. Masks protect against any strain of the coronavirus

Global health leaders are concerned about new genetic variants of the coronavirus, which appear to be at least 50% more contagious than the original.

So far, studies suggest vaccines will still work against these new strains.

One thing is clear: Public health measures – such as avoiding crowds, physical distancing and wearing masks – reduce the risk of contracting all strains of the coronavirus, as well as other respiratory diseases, Frieden said. For example, the number of flu cases worldwide has been dramatically lower since countries began asking citizens to stay home and wear masks.

The best hope isn't to choose between masks, physical distancing and vaccines, Offit said, but to combine them. "The three approaches work best as a team," he said.

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