

What to tell immunocompromised patients about COVID-19 vaccines

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While the push continues to get more Americans vaccinated against COVID-19, there's one group of patients who may still need more guidance about vaccination: Those with compromised immune systems. Since immunocompromised patients were not included in SARS-CoV-2 vaccine clinical trials, efficacy remains unknown. Two physicians aim to clear up confusion around COVID-19 vaccines for immunocompromised patients and what such people can expect.

Immunocompromised people account for at least 2.7% of U.S. adults—about 7 million people. This includes those who have had organ transplants, stem cell transplants and cancer, as well as those with primary immunodeficiency and those treated with immunosuppressive medications.

These two physicians took time to share what to tell immunocompromised patients about COVID-19 vaccination:

- Sandra Fryhofer, MD, an Atlanta general internist and chair-elect of the AMA Board of Trustees who serves as the AMA's liaison to the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices (ACIP). Dr. Fryhofer also is a member of ACIP's COVID-19 Vaccine Work Group.
- AMA member Devang Sanghavi, MD, an intensivist and medical director of the medical intensive care unit at Mayo Clinic in Jacksonville, Florida.

Here is what they had to say.

Get vaccinated as soon as possible

"I recommend COVID-19 vaccination to our immunocompromised patients," said Dr. Sanghavi, adding that "if we provide or immunize them with live vaccines, it can lead to infections," but, fortunately, the

three COVID-19 vaccines available—Moderna, Pfizer and Johnson & Johnson—are not live vaccines.

While it is not well studied, “we have decent data from the general use within the population and that includes immunosuppressed patients,” he said. “For the most part, immunocompromised patients have tolerated the COVID-19 vaccines.”

There’s decreased vaccine response

“COVID-19 vaccinations may not offer as much protection to people with compromised immune systems, but just how much appears to be driven by the type of underlying condition,” Dr. Fryhofer said during an episode of the “AMA COVID-19 Update.”

“Factors that may decrease vaccine response among immunocompromised populations include older age, primary immune deficiency, lower lymphocyte counts, decreased kidney function, being on immunosuppressive drugs or high dose corticosteroids and current or recent cancer treatment,” she said. “For example, a study looking at mRNA vaccine effectiveness in immunocompromised populations found 59–71% effectiveness against infection for immunocompromised people versus 90–94% overall.

“Another study showed two doses of an mRNA vaccine were 80% effective in those with inflammatory bowel disease on various immunosuppressants. However, one vaccine dose was only 25% effective,” she added.

Get third mRNA COVID-19 vaccine dose

“The data's there that immunocompromised patients could be helped and could be better protected from COVID with an additional vaccine dose,” said Dr. Fryhofer, noting that “in a study of solid-organ transplant patients who received three mRNA vaccine doses, no serious adverse events were reported.”

Additionally, “in a study of immunosuppressed people with suboptimal immune response, meaning low or no antibody response after initial mRNA vaccine series, 42% to 48% did develop an antibody response after an additional mRNA vaccine dose,” she said. “A third vaccine dose seems to improve immune response and is pretty well tolerated---reactogenic side effects of the additional dose are about the same as for prior doses.”

With that in mind, “on August 12th, near the stroke of midnight, FDA made the announcement we've all been hoping for,” Dr. Fryhofer said in an “AMA COVID-19 Update” about new COVID vaccine

recommendations for immunocompromised patients, noting that the “FDA authorized an additional COVID vaccine dose for certain immunocompromised people. ACIP met the following day, and also gave this extra dose a thumbs up.

“This extra dose gives these vaccinated—but still vulnerable patients—a greater chance of making enough antibodies to protect them from COVID,” she added. “But even with this third dose, protection is not guaranteed. Immunocompromised patients still need to follow prevention measures, wear a mask, practice [physical] distancing, and avoid crowds and poorly ventilated indoor spaces. And, of course, all close contacts should be fully vaccinated.”

“The type of vaccine you initially received matters for immunocompromised persons. ACIP recommends an additional dose of either Pfizer for those 12 and older or Moderna for those 18 and older following a primary mRNA vaccine series,” Dr. Fryhofer explained. Immunocompromised patients should be given “the additional dose at least one month after the primary series and try to get the same type of additional dose as the original series if you can.”

But “the recommendation only applies to those who got Pfizer or Moderna. It does not apply to those who received a single dose of Janssen's viral vector vaccine—there’s not enough data there,” she said, adding that the effectiveness of two doses of Johnson & Johnson owned “Janssen vaccine is being studied.”

Talk with your doctor

To receive the third dose of an mRNA COVID-19 vaccine, “patients just have to say that they’re immunocompromised,” said Dr. Fryhofer, noting that “at the ACIP meeting, the list of immunocompromised patients included in this recommendation” are those with “active or recent treatment for solid tumor and hematologic malignancies, patients who’ve received organ or stem cell transplants, those with moderate to severe primary immunodeficiency, or advanced or untreated HIV infection.”

“Those with chronic medical conditions, such as asplenia and chronic renal disease were mentioned at the ACIP meeting, but were not initially included on the CDC website. This omission may be an oversight,” she said. “In addition, those on active treatment with high dose corticosteroids. That means about 20 milligrams per day or higher, or other immunosuppressive treatments including alkylating agents, antimetabolites, tumor necrosis factor inhibitors and other biologic agents that are

immunosuppressive, should also receive an additional vaccine dose.

“Vaccine doses should preferentially be given at least two weeks prior to the initiation of immunosuppressive therapies if possible,” Dr. Fryhofer added. “Now, CDC does acknowledge that the patient’s clinical team is best able to assess the degree of altered immunity and the optimal timing of vaccination for those on immunosuppressive therapies.”

Learn more about why immunocompromised patients should get third mRNA COVID-19 shot.

Effect depends on the patient

“The immune response to the vaccine is dependent on the degree of immunosuppression a patient has,” explained Dr. Sanghavi. “For example, a recent transplant patient would have a much more aggressive regimen of immunosuppression because the acute risk for rejection of an organ is very high upfront in the first six months.

“For one year after that, the immunosuppression has kind of backed off and that’s when the innate immunity of the patient takes over,” he added. “So, a patient who was freshly transplanted may not be able to mount a response to the vaccine as much as compared to somebody who had an organ transplanted 10 years back or somebody who is cirrhotic and has liver disease.”

They “may still have some kind of innate immunity and may be able to mount a response, but not as robust as the general patient population,” Dr. Sanghavi continued. “And likewise for end stage renal disease patients or the elderly patient population who still may have response, but the antibody levels may drop down after a while as compared to a normal, healthy patient.”

High risk for breakthrough infection

“Several studies have also looked at breakthrough cases, meaning fully vaccinated people who test positive for COVID,” explained Dr. Fryhofer, highlighting a U.S. study that showed 40–44% of hospitalized breakthrough cases were immunocompromised patients.

“Based on what your patient has, you would want to let them know that they are at risk for the breakthrough infection,” said Dr. Sanghavi. “There’s a small chance that they may get infected, so they should watch out for those symptoms.

“They also should take more precautions than the average person who is otherwise healthy,” he added, noting that it is “because the stakes are much higher and that—immunized or not

immunized—once an immunosuppressed patient gets COVID-19, the outcomes are worse than a general patient.”

“We are 1½ years into the pandemic, and I know everybody is tired of the social restrictions—the distancing and the masking—but it can be a matter of life and death for these patients,” said Dr. Sanghavi. “We still recommend our at-risk immunosuppressed patients follow those guidelines more stringently as compared to your healthy vaccinated patients.”

That’s why it is important to “get vaccinated because that is the key to ending this pandemic,” he said. “As long as there is an exposure, there is a risk that you may get COVID, especially while the variants are circulating.”

Discover what doctors wish patients knew about breakthrough COVID infections.