COVID-19 Vaccine Boosters

An additional vaccine dose is recommended for moderately to severely immunocompromised people.

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While most cancer patients respond well to Pfizer-BioNTech and Moderna COVID-19 vaccines, some people do not produce enough antibodies after two doses. But getting a third shot may do the trick.

Some blood cancers, like chronic lymphocytic leukemia and multiple myeloma, affect B cells, which produce antibodies. What's more, some patients take targeted therapies, such as CD20 or BTK inhibitors, that impair B-cell activity. While chemotherapy does not directly target B cells, it indiscriminately kills fast-growing cells, including stem cells in the bone marrow that give rise to all blood cells.

A recent study showed that more than half of blood cancer patients who did not have detectable antibodies against SARS-CoV-2 (the coronavirus that causes COVID-19) after two vaccine doses were able to produce antibodies after a third dose; others with low antibody levels saw an increase. Another study showed a threefold increase in neutralizing antibodies after a booster in people receiving chemotherapy for solid tumors.

In August, the Food and Drug Administration and the Centers for Disease Control and Prevention recommended an additional vaccine dose for moderately to severely immunocompromised people, including those being treated for cancer. The agencies later went further, recommending Pfizer-BioNTech and Moderna boosters after six months for people ages 65 and older, younger adults with underlying health conditions—including cancer—and those at high risk for exposure due to their work or living situation. All adults who received the Johnson & Johnson vaccine can get a booster two months after their first shot.

However, a third of the patients in the blood cancer study still did not respond even after a third vaccine dose. For individuals who are not fully protected by vaccines, post-exposure prophylaxis and pre-exposure prophylaxis using monoclonal antibodies—and possibly oral antivirals in the near future—could offer a lifeline.

"We encourage blood cancer patients to take every measure to protect themselves from COVID-19 by getting vaccinated and continuing to take preventative precautions," says Gwen Nichols, MD, of the Leukemia & Lymphoma Society. And when others get vaccinated, they are not only protecting

themselves but are also helping to protect these patients.

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