



Addressing Concerns About COVID-19 Vaccine Boosters

The Issue

COVID-19 vaccine hesitancy extends to recommended booster shots. People who completed a primary vaccination series may doubt the need for booster doses or question the efficacy of boosters, especially in light of sometimes confusing or conflicting media coverage. Some people no longer see COVID-19 as a threat or have grown weary of preventive measures (“pandemic fatigue”). Others balk at the prospect of repeated vaccination.

Sound Bites

- > It is normal for the protection provided by a vaccine, including COVID-19 vaccines, to decrease over time. This is not a sign that the vaccines don't work.
- > COVID-19 vaccine boosters can further enhance or restore protection against COVID-19 that may have decreased over time.
- > COVID-19 vaccine boosters are especially important for protecting against serious COVID-19 disease, including severe illness, hospitalization, and death.
- > People are protected best from COVID-19 severe disease when they stay up to date with their COVID-19 vaccines, which includes getting all recommended boosters when eligible.
- > Staying up to date with COVID-19 vaccines will be crucial as new boosters are formulated to better protect against emerging virus variants.
- > A new bivalent booster offered in fall 2022 targets the original form of the COVID-19 virus as well as the Omicron variant.



Questions for Exploring Patient Concerns

- > What do you know about COVID-19 vaccine boosters?
- > What concerns you most about getting another COVID-19 vaccination?
- > What would have to be true for you to think it was important to get a COVID-19 vaccine booster?
- > What if I told you...? (Provide information about the importance of vaccine booster doses.)

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What We Know

In the United States, the first COVID-19 vaccine was authorized in December 2020. The first booster doses were authorized in September 2021 for a limited population. Over time, additional data accumulated, providing the basis for broader recommendations for who would benefit from booster doses. By July 2022, recommendations for booster doses had expanded to include everyone 5 years of age and older; some people were encouraged to receive a second booster shot. It would not be surprising for booster recommendations to change again as more evidence accumulates.

Yet as of July 2022, less than 50% of the eligible population had received any booster dose.¹ The reasons for not getting a booster are wide-ranging. In a Kaiser Family Foundation COVID-19 Vaccine Monitor survey, participants said they had not received a booster dose because they²:

- > Already have enough protection from either their initial vaccine doses or from a previous COVID-19 infection (56%).
- > Just don't want to (45%).
- > Don't think boosters are effective because some vaccinated people are still getting infected (39%).
- > Are too busy or have not had time to get it (33%).

Additionally, some participants reported having bad side effects from a previous COVID-19 vaccine dose. Participants also cited logistical concerns, such as worries about missing work, difficulties traveling to a vaccination site, and worries about having to pay out of pocket.²

Discussion of the possible need for booster doses began almost as soon as the first vaccines were authorized, since no one knew whether, or to what extent, vaccine-induced immunity might wane. A modeling study published in mid-2021 predicted a significant loss in protection against SARS-CoV-2 infection over the first 250 days after immunization, as levels of neutralizing antibodies declined.³ The results suggested that booster immunization might be required within a year. Protection against severe disease was estimated to be much more durable than overall immunity to any infection.

These predictions proved to be largely correct. A systematic review and meta-regression found that during the 6 months after full vaccination, vaccine efficacy or effectiveness against SARS-CoV-2 infection and symptomatic COVID-19 disease decreased by approximately 20 to 30 percentage points, on average, for the four vaccines evaluated (including three vaccines available in the United States).⁴ Most studies showed that vaccine efficacy or effectiveness against severe disease was maintained above 70% after full vaccination, with a minimal decrease to 6 months (approximately 9 to 10 percentage points).

Initial recommendations for vaccine booster doses in the United States were based in part on promising data from other countries. In July 2021, Israel became the first country in the world to approve the administration of a third dose (i.e., a booster dose) of the Pfizer-BioNTech vaccine to adults 60 years of age or older who had completed the primary vaccine series at least 5 months earlier.⁵ Data from more than 1 million persons showed that the rate of confirmed SARS-CoV-2 infection was lower in the booster group than in the unboosted group by a factor of 11.3, at a time when the Delta variant was dominant. The rate of severe illness was lower in the booster group than in the unboosted group

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by a factor of 19.5. A subsequent analysis of data from more than 4.6 million persons 16 years or older—after the booster program had been extended—yielded similar results.⁶

It is important to impress that most of our understanding of COVID-19 vaccine longevity and booster effectiveness evolved, and continues to evolve in real-time, with sometimes confusing and conflicting media coverage. Given that the initial messaging about the COVID-19 vaccines emphasized their ability to prevent infection—breakthrough infections were described as “rare” or even “extremely rare”—it is not surprising that some people question the necessity or effectiveness of boosters. Breakthrough infections became more common as Omicron and its subvariants became dominant, even in people who were up to date with COVID-19 vaccines. A systematic antigenic analysis found that while the BA.2.12.1 subvariant was only modestly (1.8-fold) more resistant to sera from vaccinated and boosted individuals than BA.2, BA.4/5 was substantially (4.2-fold) more resistant and more likely to lead to breakthrough infections.⁷

Persons who are reluctant to receive a COVID-19 booster should be aware of the following information:

- > Immunity against SARS-CoV-2 infection wanes over time. This is true whether the immunity comes from a previous SARS-CoV-2 infection or vaccination. Immunity may begin to wane as soon as 4 to 6 months after an infection or primary vaccine series.
- > It is normal for the protection provided by a vaccine to decrease over time. This is not a sign that the vaccine doesn't work.
- > COVID-19 vaccine boosters can further enhance or restore protection that might have decreased over time.
- > COVID-19 vaccine boosters are especially important for protection against serious COVID-19 disease, including severe illness, hospitalization, and death. Even as SARS-CoV-2 variants become increasingly adept at evading immunity provided by vaccines (or previous infection)—so that vaccines offer less protection against breakthrough infections and mild symptomatic disease—vaccines continue to offer strong protection against severe COVID-19 disease.
- > Certain groups have an increased risk of severe COVID-19 disease, including people 65 years of age and older and people who are immunocompromised. People in these groups may need additional booster doses to increase the immune response and improve protection against severe COVID-19 illness, hospitalization, and death.
- > People are protected best from severe COVID-19 disease when they stay up to date with their COVID-19 vaccines, which includes getting all recommended boosters when eligible.
- > Staying up to date will be crucial as new boosters are formulated to better protect against emerging virus variants.

Take note that COVID-19 vaccine and booster recommendations are updated periodically as the Centers for Disease Control and Prevention (CDC) continues to use the latest data on safety and how well vaccines work, including over time and against new variants. The latest [CDC recommendations on COVID-19 vaccination schedules](#) are available in an At-a-Glance format.

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References

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