

# Four things to know about COVID-19 vaccine boosters

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Credit: University of Pennsylvania

Recent increases in COVID-19 positivity rates and hospitalizations and uncertainty about the risks posed by the omicron variant have placed renewed emphasis on the essential role of COVID vaccines in

combatting the ongoing pandemic.

Based on new studies showing that protection against SARS-CoV-2, the virus that causes COVID-19, may decrease over time, the CDC now recommends [booster](#) shots. This includes anyone 18 and older who completed the two-dose series of Moderna at least six months ago or received a Johnson & Johnson shot at least two months ago; for those who received both doses of the Pfizer-BioNTech vaccine at least six months ago, eligibility is 16 years or older. In addition to clinics held on campus, COVID-19 vaccine boosters are available through major pharmacy chains nationwide.

Penn Today spoke with Chief Wellness Officer Benoit Dubé and Judith A. O'Donnell, section chief of the Division of Infectious Diseases at Penn Presbyterian Medical Center and a professor of infectious diseases at the Perelman School of Medicine, to learn more about COVID-19 vaccine boosters, their role in the current phase of the pandemic, and what other measures [people](#) can take to keep themselves and their communities safe.

## **Boosters act as a 'refresher course' for the immune system**

"A booster is another dose of a vaccine that is given after someone has completed their vaccination series to increase or 'boost' their [immune response](#)," says O'Donnell. The boosters that are currently being administered use the same formulation as the original vaccines, she says, although the doses may differ. While the Pfizer and Johnson & Johnson vaccines use the same amount as the initial series, the Moderna booster is a half dose.

Dubé says that boosters can be thought of as a "refresher course" for the

immune system, something that helps remind the immune system what it "learned" from a prior vaccination to ensure a quick and efficient response to the virus.

## **Boosters are important because of waning immunity and the overall severity of COVID-19**

O'Donnell says there is an increased risk of "breakthrough infections," when a person tests positive after being fully vaccinated, because antibody levels naturally decrease over time. And while breakthrough infections are generally mild or asymptomatic for the individual, boosters are important because vaccinated people with breakthrough infections can still transmit SARS-CoV-2. "It is important to be able to decrease virus transmission within our communities, and getting a booster is one way to do so," she says.

Dubé says another reason why boosters are needed is that many people are still naïve to SARS-CoV-2 because it is an entirely new virus, and the [immune system](#) is not as "naturally primed" as it is to other more common viruses like influenza. In addition to an individual's own natural waning immunity and naïveté to the virus, the fact that COVID-19 can be very severe in certain individuals makes stopping the spread especially important.

"The important thing is that we must all be optimally defended against COVID," says Dubé. "Getting boosted means a prompter immune response, less transmission, and fewer people who are at risk of severe illness. It's not just an individual disease but a challenge for society, and we need to think about it as something that's not just for us but also for others."

**It's better to get a booster now rather than waiting for**

## **variant-specific vaccines**

Dubé and O'Donnell agree that given concerns about "immune escape" and omicron, people should get the original [vaccine](#) formulations that are available now.

"Even if you've already received two doses, your immunity wanes over time, and you are putting yourself and others at risk by waiting," says Dubé, who encourages people not to wait if they are already eligible for a COVID-19 booster.

O'Donnell also recommends that people who are eligible get boosted now instead of waiting. "These potential variant-specific boosters do not exist yet, and it would take manufacturers three to four months, or even longer, to get that compound created, tested, manufactured, and available in your retail pharmacy," says O'Donnell. "It is safer to take the current booster formulation now than to allow your immunity to further wane another three to four months."

## **The public health measures that worked early in the pandemic are still effective**

"We will continue to learn much more about all of this in the coming weeks, but, given that omicron could become a dominant strain, now is the time for people to get boosted so they have that extra level of protection," O'Donnell says.

Along with getting boosted, O'Donnell says that people should also wear masks in public indoor settings, avoid large indoor gatherings, and ensure that eligible individuals who do get together are all vaccinated, get tested if they develop any COVID-19 symptoms, and get a flu shot if they haven't done so already.

As with prior stages of the pandemic, Dubé says that masking, hand washing, and limiting large indoor gatherings are key in keeping people on Penn's campus and the community safe.

And for those who are struggling with the ongoing mental health impacts of the pandemic, Dubé says "it is important to acknowledge that this is stressful, unrelenting, and exhausting," adding that even though there is still a lot of uncertainty about omicron people can instead focus on things they do have control over. "We get to decide the level of exposure we are OK with, and we can continue to adjust and adapt as we've done before," he says.

Provided by University of Pennsylvania

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