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# CDC approves COVID vaccine boosters for Moderna, J&J recipients, mix-and-match

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***Editor's note:*** *For the latest news on COVID-19, visit http://bit.ly/AAPNewsCOVID19.*

The Centers for Disease Control and Prevention (CDC) has approved vaccine boosters for all adults who received a Johnson & Johnson COVID-19 vaccine and certain high-risk adults who received the Moderna vaccine.

Booster recipients do not need to get the same vaccine as used in their primary series, a practice referred to as "mix-and-match."

"The evidence shows that all three COVID-19 vaccines authorized in the United States are safe — as demonstrated by the over 400 million vaccine doses already given," CDC Director Rochelle P. Walensky, M.D., M.P.H., said in a statement Thursday night. "And, they are all highly effective in reducing the risk of severe disease, hospitalization, and death, even in the midst of the widely circulating Delta variant."

The approval followed an all-day meeting of the CDC's Advisory Committee on Immunization Practices (ACIP) during which the group voted 15-0 in favor of boosters for Moderna and Johnson & Johnson recipients despite some concerns as to whether there was enough evidence the benefits outweigh the risk of rare but serious side effects for some people.

"Our recommendations are one step of the way, but it's going to be so important … for us to make sure in our implementation that patients are truly educated about the benefit/risk balance based on their own personal situation," said ACIP Chair Grace Lee, M.D., M.P.H., associate chief medical officer for practice innovation at Lucile Packard Children's Hospital.

ACIP members enthusiastically endorsed allowing people to get a different booster brand than they had for their primary series to improve access and allow people to change vaccines if they have a safety concern.

The recommendations came a day after the Food and Drug Administration (FDA) granted emergency use authorization for the boosters. Booster doses for Pfizer-BioNTech recipients were approved last month.

**Boosters for Moderna recipients**

Boosters for Moderna recipients are intended to address some evidence of waning immunity, especially for people who are older. A booster can be given at least six months after the primary series.

Boosters are allowed for Moderna recipients ages 65 years and older, adults with certain underlying medical conditions that put them at high risk of severe COVID-19 and adults with frequent institutional or

occupational exposure to SARS-CoV-2.

The CDC's proposed clinical guidance says people 65 years and older, adults in long-term care settings and people ages 50-64 years with certain underlying medical conditions **should** get a booster dose. Those ages 18-49 years with underlying conditions and those 18-64 years with occupational or institutional exposure **may** receive a booster.

For the "may receive" group, the CDC proposes a risk-benefit assessment weighing the potential benefits of reduced risk of infection and severe infection with the potential risk for a rare but serious adverse event like myocarditis, which is highest for males under 30.

People who have developed myocarditis or pericarditis after an mRNA vaccine should not get a booster until they have recovered and should discuss it with their doctor, according to the CDC.

People who initially received a Moderna or Pfizer-BioNTech series and fall into one of the authorized groups of adults can receive a booster with any of the three vaccines at least six months after the primary series.

Despite the booster recommendation, people are still considered fully vaccinated two weeks after receiving a second dose of an mRNA vaccine.

When Moderna is used as a booster, the dose is 50 micrograms, half the dose used in the primary series. It will be given out of the same vials as the Moderna primary series.

**Boosters for Johnson & Johnson recipients**

Boosters for Johnson & Johnson recipients are intended to address lower effectiveness of the single-dose vaccine compared to mRNA vaccines. A booster is recommended for all recipients 18 years and older at least two months after completion of a primary series.

Company representatives said they have found boosting a Johnson & Johnson recipient with the same vaccine two months after the first dose could improve protection against symptomatic COVID-19 from 70% to 94% without sparking any new safety concerns. But some ACIP members also pointed to the benefits of using an mRNA vaccine to boost these adults.

For recipients who developed thrombosis with thrombocytopenia (TTS) after a Johnson & Johnson primary vaccine, the CDC does not recommend using the same vaccine as a booster. TTS is rare, and the risk is highest in women ages 18-49 years. Instead, these recipients can choose to receive a boost with an mRNA vaccine at least two months after their primary dose and after their condition has stabilized, according to the CDC's clinical guidance.

People who have had Guillain-Barré syndrome after a Johnson & Johnson dose still may get a Johnson & Johnson booster if the syndrome occurred more than 42 days after vaccination or was determined to be unrelated to the vaccine. However, they should be made aware of their option to get an mRNA vaccine instead.

Under the FDA rules for mixing and matching, people who received a Johnson & Johnson vaccine could get a booster with any of the three vaccines at least two months after the primary dose.

People who have received one dose of the Johnson & Johnson vaccine are still considered fully vaccinated at least two weeks after that dose.

**Resources**

- FDA information on the Moderna COVID-19 vaccine
- FDA information on the Johnson & Johnson COVID-19 vaccine
- FDA information on the Pfizer-BioNTech COVID-19 vaccine