COVID-19 vaccine booster/additional primary series dose FAQ

Introduction

As the COVID-19 pandemic persists, concerns are emerging about waning immunity, breakthrough infections, risk in immunocompromised patients, and transmission in vaccinated individuals. Frequently asked questions addressing these issues are reviewed for immunocompromised patients and the general population. This information is understood to be current as of 1/10/22. Check primary sources for the most up to date information.

FAQ

What is the difference between a COVID-19 booster and an additional primary series dose for COVID-19?

COVID-19 vaccine boosters versus an additional primary series dose[1-5, 14, 18-19]		
	Booster	**Additional primary series dose**
Definition	Given to a patient in addition to the primary series to maintain immunity and may be a reduced dose (Moderna) or equivalent to a single dose in the primary series (Pfizer, J&J).	Repeats the dose from the primary series and is currently only considered in certain immunocompromised patients.
Vaccine	Pfizer-BioNTech: booster authorized Moderna: booster authorized J&J: booster authorized	Pfizer-BioNTech: additional primary series 3rd dose authorized Moderna: additional primary series 3rd dose authorized
Dose	Pfizer-BioNTech booster: 30 mcg/0.3 mL intramuscularly X 1 Moderna booster: 50 mcg/0.25 mL intramuscularly X 1 J&J booster: 5 X 10^{10} viral particles/0.5 mL intramuscularly X 1	Pfizer-BioNTech: • 5-11 y: 10 mcg/0.2 mL intramuscularly X 1 • 12 y and older: 30 mcg/0.3 mL intramuscularly X 1 Moderna: 100 mcg/0.5 mL intramuscularly X 1
Timing following primary series	Pfizer-BioNTech booster: ≥5 months Moderna booster: ≥5 months J&J booster: ≥2 months	Pfizer-BioNTech or Moderna additional primary series dose: ≥28 d

Ages *in*eligible	Pfizer-BioNTech: < 12 years of age Moderna or J&J: <18 years of age	Pfizer-BioNTech: <5 years of age Moderna: <18 years of age
4th dose potential	N/A	Patients with moderate and severe immunocompromise who are ≥ 12 years of age and have completed a 3 dose primary series with an mRNA vaccine should receive a booster dose (any FDA authorized or approved product) 6 months or longer following the primary series. **Note:** This information is current as of 12/21/21. Check back frequently to see if duration is updated to 5 months to align with EUAs.

For whom is an *additional primary series dose* currently recommended?

An additional dose is recommended in moderately to severely immunocompromised patients who have previously received a complete mRNA series (Pfizer-BioNTech or Moderna) to be administered at least 28 days after the second dose in age groups authorized under the individual vaccine EUA (Pfizer-BioNTech 5 years or older; Moderna: 18 years or older). This includes individuals who have:[4]

a. Been receiving active cancer treatment for tumors or cancers of the blood
b. Received an organ transplant and are taking medicine to suppress the immune system
c. Received a stem cell transplant within the last 2 years or are taking medicine to suppress the immune system
d. Moderate or severe primary immunodeficiency (such as DiGeorge syndrome, Wiskott-Aldrich syndrome)
e. Advanced or untreated HIV infection
f. Active treatment with high-dose corticosteroids or other drugs that may suppress your immune response

What dosage should be used for an *additional primary series dose* in moderately to severely immunocompromised patients?

Moderna: 100 mcg/0.5 mL intramuscularly X 1 at least 28 days after the primary series[6]

Pfizer-BioNTech:

5 to 11 years: 10 mcg/0.2 mL intramuscularly X 1 at least 28 days after the primary series[2]

12 years and older: 30 mcg/0.3 mL intramuscularly X 1 at least 28 days after the primary series[2]

What if an immunocompromised patient initially received the J&J vaccine?

While immunocompromised patients are not specifically mentioned, any patient 18 years of age or older who received the J&J vaccine 2 months or longer ago should receive a booster dose.[13]

What is the status of *booster doses* in the general population?

- CDC recommends the following groups ***should*** receive a booster shot 5 months or more after their initial series if they received **Moderna**:[6,12,16, 19]
    - 18 years of age or older
- CDC recommends the following groups ***should*** receive a booster shot 5 months or more after their initial series if they received **Pfizer-BioNTech**:[12,16, 19, 21]
    - 12 years of age or older
- CDC recommends patients 18 years of age or older who received a **J&J** vaccine 2 months ago or longer ***should*** receive a booster shot[13, 16]

Should immunocompromised patients receive a booster?

Patients with moderate and severe immunocompromise may be eligible for a booster; recommendations for vaccine choice and timing depend on age and previous vaccine administered. Refer to CDC chart for the most up-to-date information.[4]

What dosage should be used for a *booster dose*?

Pfizer-BioNTech booster: 30 mcg/0.3 mL intramuscularly X 1

Moderna booster: 50 mcg/0.25 mL intramuscularly X 1

J&J booster: 5 X 10^{10} viral particles/0.5 mL intramuscularly X 1

What information is available regarding mixing and matching administration of different COVID-19 vaccine brands for boosters?

mRNA vaccines (Pfizer-BioNTech or Moderna) are generally preferred in most situations.[18] The J&J vaccine may be considered in some situations.[20] Patients 12-17 years of age are only eligible for the Pfizer-BioNTech vaccine.[2]

Does the expected adverse effect profile differ with an additional primary series dose or booster dose compared to the primary series?

In general, no; however, more information is needed to make a final determination. For example in ~300 trial participants, adverse reactions were similar after dose 3 compared to dose 2 with the Pfizer-BioNTech vaccine. Additionally, ~12,500 v-safe registrants completed a check in following the third dose of an mRNA vaccine and incidence of local & systemic reaction was similar to those reported following a second dose. During the study period, ACIP recommendations for doses beyond the primary series were limited to the

immunocompromise indication; and it may be considered that most of the patients reporting to v-safe at this time were likely in this category.[11]

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