

Vaccines for COVID-19

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SARS-CoV-2, the virus that causes COVID-19, was first identified in patient specimens in China in January 2020. Within 3 days, the RNA of the virus was sequenced. Twenty-five days after that, the first mRNA vaccine had been developed, and in 63 days it was ready to give to volunteers in a large clinical trial. On December 11, 2020 the Pfizer mRNA vaccine, with an efficacy of 95%, was given Emergency Use Authorization (EUA) by the FDA, and on December 19 the Moderna vaccine, with an efficacy of 94%, had EUA approval. After a phased rollout across the country, these vaccines, along with the Johnson & Johnson vaccine, became widely available in the spring of 2021. In the following months, through the time of this writing, we have learned about waning efficacy after the primary vaccine series, reduced efficacy in immunocompromised populations, unanticipated side effects (e.g. mild myocarditis cases mostly in adolescent and young adult males), the effectiveness of vaccines against the delta and omicron variants of SARS-CoV-2, and the impressive efficacy after a booster dose. As the science has evolved, so have the recommendations for vaccine use. The following are the current CDC recommendations for COVID-19 vaccines.

Summary of Recent Changes (last updated February 22, 2022)¹

- Added considerations for an 8-week interval between the first and second doses of a primary mRNA vaccine schedule

Key Points

- COVID-19 vaccines currently approved or authorized by FDA are effective in preventing serious outcomes of coronavirus disease 2019 (COVID-19), including severe disease, hospitalization, and death.
- COVID-19 primary series vaccination is recommended for everyone ages 5 years and older in the United States for the prevention of COVID-19.
- A 3-dose primary mRNA COVID-19 vaccine series is recommended for people ages 5 years and older who are moderately or severely immunocompromised, followed by a booster dose in those ages 12 years and older.
- In most situations, Pfizer-BioNTech or Moderna COVID-19 Vaccines are preferred over the Janssen COVID-19 Vaccine for primary and booster vaccination.
- A booster dose of COVID-19 vaccine is recommended for everyone ages 12 years and older. Timing of a booster dose varies based on COVID-19 vaccine product and immunocompetence.
- Efforts to increase the number of people in the United States who are up to date with their COVID-19 vaccines remain critical to preventing illness, hospitalizations and deaths from COVID-19.
- These clinical considerations provide additional information to healthcare professionals and public health officials on use of COVID-19 vaccines.

References

1. Centers for Disease Control and Prevention. (2022, Feb). Interim clinical considerations for use of COVID-19 vaccines currently approved or authorized in the United States. Retrieved from <https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html>

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