

Comparison of COVID-19 Vaccines

Vaccine Developer	Pfizer	Moderna	Johnson & Johnson	AstraZeneca
How does it work?	Messenger RNA	Messenger RNA	Modified cold virus	Inactivated cold virus
When was it approved /expected approval?	Dec. 11	Dec. 18	Feb. 27. Amended April 23 rd re: blood clot issues	Could submit application for emergency use authorization in May 2021
What percentage of people did it protect from getting infected in clinical studies?	95%	94.1%	66.1% globally; 72% in the U.S.; 86% effective against severe disease	76% effective against symptomatic coronavirus infections and 100% effective in preventing hospitalization and severe disease, according to an interim analysis of its United States phase 3 trial, which included more than 32,000 people
How many shots are needed?	Two doses, 3 weeks apart	Two doses, 4 weeks apart	One dose	Two doses, a month apart
What are the side effects?	Fatigue, headache, chills, muscle pain, especially after the second dose.	Fever, muscle aches, headaches lasting a few days. Effects worse after second dose.	Injection site pain, headache, fatigue, muscle pain	Injection site pain, fever, muscle aches, headache
How many doses will be available, and when?	50 million, starting Dec. 18; 1.3 billion in 2021	20 million, starting Dec. 21; 80 million for U.S. in 2021	100 million doses by summer	3 billion planned for 2021
Who is it recommended for?	People 16 years and older; FDA set to authorize for adolescents ages 12 to 15 years by mid-May	People 18 years and older	People 18 years and older	Not yet available.
Is there anyone who shouldn't get the vaccine?	People with a history of allergic reactions to vaccine ingredients including polyethylene glycol, and anyone with a history of allergic reactions to polysorbate.	People with a history of allergic reactions to vaccine ingredients including polyethylene glycol, and anyone with a history of allergic reactions to polysorbate.	Anyone who's had a severe allergic reaction to an ingredient in the vaccine.	Not yet available.

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What about pregnant women and nursing moms?	Pregnant women or nursing moms who want the COVID-19 vaccine should get one, experts say. The vaccine has not yet been studied in pregnant women. Read guidelines here .	There's limited data. Studies in rats who were immunized before and during pregnancy found no safety concerns. The CDC says pregnant women may choose to receive the vaccine.	While there have been no specific studies in these groups, there is no contraindication to receipt of the vaccine for pregnant or breastfeeding women. Pregnant or breastfeeding women should discuss their options with their healthcare providers.	Not yet available.
Any significant side effects?	50 cases of anaphylaxis in people who received the vaccine, mostly women. Four cases of Bell's palsy, a type of temporary facial paralysis, reported in people who received the vaccine. This is not more than would be expected in the general population.	21 cases of anaphylaxis in people who received the vaccine, all in women. Four cases of Bell's palsy reported in the clinical trials including 3 in the vaccine group, and 1 in the placebo group. This is not more than would be expected in the general population.	One person went to the hospital for fever associated with the vaccine. Four other serious cases were not related to the vaccine. No serious cases of anaphylaxis were reported.	Four total serious side effects, including two cases of transverse myelitis.
What about people with lowered immune function?	Ok for people whose immune function is lowered by HIV or immunosuppressing drugs if they have no other reasons to avoid it. There is limited safety data in this group.	Ok for people whose immune function is lowered by HIV or immunosuppressing drugs if they have no other reasons to avoid it. There is limited safety data in this group.	Not yet available.	Not yet available.
What about people with autoimmune diseases?	No data are available on the safety or effectiveness of mRNA vaccines in people with autoimmune disease. People with autoimmune conditions may still get the shots if they have no other reasons to avoid vaccination.	No data are available on the safety or effectiveness of mRNA vaccines in people with autoimmune disease. People with autoimmune conditions may still get the shots if they have no other reasons to avoid vaccination.	Not yet available.	Not yet available.

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Is the vaccine safe for people with a history of Guillain-Barre Syndrome (GBS)?	To date, no cases of GBS have been seen in people vaccinated for COVID-19. The CDC says a history of GBS is not a reason to avoid vaccination.	To date, no cases of GBS have been seen in people vaccinated for COVID-19. The CDC says a history of GBS is not a reason to avoid vaccination.	Not yet available.	Not yet available.
Storage and Handling	<p>Store vaccine in an ultra-cold freezer, thermal shipping container, freezer, or refrigerator.</p> <p>Each thermal shipping container holds up to 5 trays of vaccine. Each tray contains 195 multidose vials (1,170 doses). A vaccine tray is approximately 9 in x 9 in x 1.5 in.</p> <p>Check and record storage unit temperatures each workday.</p> <p>Before mixing, the vaccine may be stored in the freezer between -25°C and -15°C (-13°F to 5°F) for up to 2 weeks. The total time vials are stored at these temperatures should be tracked and should not exceed 2 weeks.</p> <p>Before mixing, the vaccine may be stored in the refrigerator between 2°C and 8°C (36°F and 46°F) for up to 120 hours (5 days).</p> <p>https://www.cdc.gov/vaccines/covid-19/info-by-product/pfizer/downloads/storage-summary.pdf</p>	<p>Store vaccine in a freezer or refrigerator.</p> <p>Each box contains 10 multidose vials (Maximum of 11 doses per vial). Each box is approximately 2 inches by 2 inches by 5.4 inches.</p> <p>Check and record storage unit temperature each workday.</p> <p>Moderna now has data that could support a three-month refrigerated shelf life for its vaccine. The mRNA vaccine is approved to be stored in the refrigerator between 36 and 46 degrees Fahrenheit for up to 30 days and up to seven months at minus 4 Fahrenheit.</p> <p>Punctured vials may be stored between 2°F and 25°C (36°F and 77°F) for up to 12 hours.</p> <p>https://www.cdc.gov/vaccines/covid-19/info-by-product/moderna/downloads/storage-summary.pdf</p>	<p>Store vaccine in a refrigerator.</p> <p>Each carton contains 10 multidose vials (50 doses). A carton is approximately 3.7 in x 3.7 in x 2.1 in.</p> <p>Each multidose vial contains 5 doses.</p> <p>Check and record storage unit temperatures each workday.</p> <p>CDC recommends storing vaccine between 2°C and 8°C (36°F and 46°F): Unpunctured vials until the expiration date* Punctured vials for up to 6 hours.[†] Note the date and time the vial was first punctured.</p> <p>Discard vaccine not used within this time.</p> <p>Do not freeze. Protect from light.</p> <p>https://www.cdc.gov/vaccines/covid-19/info-by-product/janssen/downloads/janssen-storage-handling-summary.pdf</p>	<p>Vaccine can be stored for up to six months between 36°F and 46°F, normal refrigerator temperatures.</p>

*Bulk of information found at: <https://www.webmd.com/vaccines/covid-19-vaccine/news/20201214/closer-look-at-three-covid-19-vaccines> with the remainder coming from CDC documents.

Helpful Information for Medical Providers of the COVID-19 Vaccine: COVID-19 Vaccine is Provided at 100% No Cost to Recipients

All organizations and providers participating in the CDC COVID-19 Vaccination Program:

- **Must** administer COVID-19 Vaccine at no out-of-pocket cost to the recipient
- May **not** deny anyone vaccination based on the vaccine recipient's coverage status or network status
- May **not** charge an office visit or other fee if COVID-19 vaccination is the sole medical service provided
- May **not** require additional medical services to receive COVID-19 vaccination
- **May** seek appropriate reimbursement from a program or plan that covers COVID-19 Vaccine administration fees for the vaccine recipient, such as:
 - Vaccine recipient's private insurance company
 - Medicare or Medicaid reimbursement
 - HRSA COVID-19 Uninsured Program for non-insured vaccine recipients
- May **not** seek any reimbursement, including through balance billing, from the vaccine recipient

Individuals aware of any potential violations of these requirements are encouraged to report them to the Office of the Inspector General, U.S. Department of Health and Human Services, by calling 1-800-HHS-TIPS or the website tips.hhs.gov.

Data and Reporting

All COVID-19 vaccination providers must report COVID-19 vaccine inventory daily into vaccines.gov. In some jurisdictions, providers may report vaccine inventory to the jurisdiction's IIS for the jurisdiction to upload into Vaccines.gov. If you have questions about the process for your jurisdiction, please contact your jurisdiction's immunization program.

Vaccines.gov Info

- [Enrolling in your jurisdiction/state-based IIS system](#)
- [See CDC's Reporting Requirements](#)
- [Add the COVID-19 vaccine label to your VTrckS profile](#)

Vaccine Administration Documentation

COVID-19 vaccination providers must document vaccine administration in their medical record systems within 24 hours of administration, and use their best efforts to report administration data to the relevant system for the jurisdiction (i.e., IIS) as soon as practicable and no later than 72 hours after administration. CDC Provider Updates Page: <https://www.cdc.gov/vaccines/covid-19/vaccination-provider-support.html>.