

COVID-19 Vaccine

Quick Reference Guide for
Healthcare Professionals



The table below provides basic information on the proper storage, preparation, and administration of the currently authorized COVID-19 vaccine products in the United States. For additional information and detailed clinical guidance go to the manufacturers' website and CDC's webpages listed.

General Information

	Pfizer-BioNTech	Moderna	Janssen
Authorizations and approvals	www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/pfizer-biontech-covid-19-vaccine	www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/moderna-covid-19-vaccine	www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/janssen-covid-19-vaccine
CDC Interim Clinical Considerations for Use of COVID-19 Vaccines Currently Approved or Authorized in the United States	www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html#appendix-c		
CDC Interim COVID-19 Immunization Schedule for Ages 5 Years and Older	www.cdc.gov/vaccines/covid-19/downloads/COVID-19-immunization-schedule-ages-5yrs-older.pdf		
CDC vaccine information	www.cdc.gov/vaccines/covid-19/info-by-product/pfizer/index.html	www.cdc.gov/vaccines/covid-19/info-by-product/moderna/index.html	www.cdc.gov/vaccines/covid-19/info-by-product/janssen/index.html
Manufacturer Contact Information	Website: www.cvdvaccine.com Medical information: 800-438-1985 Customer service: 800-879-3477	Website: www.modernatx.com Medical Information: 866-663-3762	Website: www.vaxcheck.jnj Medical information: 800-565-4008

Storage & Handling

	Pfizer-BioNTech			Moderna	Janssen
	Ages 5 through 11 years (orange cap)	Ages 12 years and older (purple cap)	Ages 12 years and older (gray cap)	Ages 18 years and older	Ages 18 years and older
How supplied	Multidose vial: 10 doses	Multidose vial: 6 doses	Multidose vial: 6 doses	Multidose vial*: Primary (0.5 mL) only: 11 doses Booster (0.25 mL) only: 20 doses Combination of primary series and booster doses: 20 doses Do NOT puncture the vial stopper more than 20 times.	Multidose vial: 5 doses

* There are 2 presentations of Moderna COVID-19 Vaccine authorized by FDA. Currently only Moderna COVID-19 Vaccine with a red cap and a light blue border on the label is available to order. Additional guidance will be forthcoming.

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Diluent	0.9% sodium chloride (preservative-free, normal saline) provided in the ancillary kit. Do NOT use other diluent.		Do NOT dilute prior to use.	None	None
	1.3 mL of diluent	1.8 mL of diluent			
Storage temperatures: Before puncture	<p>Between: -90°C and -60°C (-130°F and -76°F) until the expiration date</p> <p>2°C and 8°C (36°F and 46°F) for up to 10 weeks</p> <p>8°C and 25°C (46°F and 77°F) for a total of 12 hours prior to dilution</p> <p>Do NOT freeze or store in a standard freezer</p>	<p>Between: -90°C and -60°C (-130°F and -76°F) until the expiration date</p> <p>-25°C and -15°C (-13°F and 5°F) for up to 2 weeks</p> <p>2°C and 8°C (36°F and 46°F) for up to 1 month (31 days)</p> <p>Up to 25°C (77°F) for a total of 2 hours (prior to dilution)</p>	<p>Between: -90°C and -60°C (-130°F and -76°F) until the expiration date</p> <p>2°C and 8°C (36°F and 46°F) for up to 10 weeks</p> <p>8°C and 25°C (46°F and 77°F) for a total of 12 hours prior to first puncture</p> <p>Do NOT freeze or store in a standard freezer</p>	<p>Between: -50°C and -15°C (-58°F and 5°F) until the expiration date</p> <p>2°C and 8°C (36°F and 46°F) for up to 30 days</p> <p>8°C and 25°C (46° and 77°F) for a total of 24 hours</p>	<p>Between: 2°C and 8°C (36°F and 46°F) until the expiration date</p> <p>9°C and 25°C (47°F and 77°F) for up to 12 hours</p>
Storage temperatures: After puncture	<p>Between: 2°C and 25°C (36°F and 77°F) for up to 12 hours</p> <p>Discard any unused vaccine after 12 hours.</p>	<p>Between: 2°C and 25°C (36°F and 77°F) for up to 6 hours</p> <p>Discard any unused vaccine after 6 hours.</p>	<p>Between: 2°C and 25°C (36°F and 77°F) for up to 12 hours</p> <p>Discard any unused vaccine after 12 hours.</p>	<p>Between: 2°C and 25°C (36°F and 77°F) for up to 12 hours</p> <p>Discard vial and any unused vaccine after 12 hours or after the vial has been punctured 20 times.</p>	<p>Between: 2°C and 8°C (36°F and 46°F) for up to 6 hours</p> <p>9°C and 25°C (47°F and 77°F) for up to 2 hours</p> <p>Discard any unused vaccine after these time frames.</p>
Transport temperatures*: Before puncture	<p>A tray containing vaccine vials between -90°C and -60°C (-130°F and -76°F) or</p> <p>Individual vials between 2°C and 8°C (36°F and 46°F)</p>	<p>A tray of vaccine vials between -90°C and -60°C (-130°F and -76°F) or</p> <p>Individual vials between -25°C and -15°C (-13°F and 5°F) or individual vials at 2°C to 8°C (35°F to 46°F) for up to 12 hours.</p>	<p>A tray containing vaccine vials between -90°C and -60°C (-130°F and -76°F) or</p> <p>Individual vials between 2°C and 8°C (36°F and 46°F)</p>	<p>Between: -50°C and -15°C (-58°F and 5°F) or 2°C and 8°C (36°F and 46°F) for up to 12 cumulative hours, once or multiple times</p>	<p>Between: 2°C and 8°C (36°F and 46°F)</p>

* CDC recommends following manufacturer's instructions for transporting vaccine.

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	Ages 5 through 11 years (orange cap)	Ages 12 years and older (purple cap)	Ages 12 years and older (gray cap)	Ages 18 years and older	Ages 18 years and older
Transport temperatures*: After puncture	Transporting punctured/mixed vials is not recommended.*	Between: 2°C to 25°C (36°F to 77°F) for up to 6 hours.	Transporting punctured/mixed vials is not recommended.†	Between: 2°C and 25°C (36°F and 77°F) for up to 12 hours.	Between: 2°C and 8°C (36°F and 46°F) for up to 6 hours

Vaccine Administration

	Pfizer-BioNTech			Moderna	Janssen
	Ages 5 through 11 years (orange cap)	Ages 12 years and older (purple cap)	Ages 12 years and older (gray cap)	Ages 18 years and older	Ages 18 years and older
Type of vaccine	mRNA			mRNA	Viral vector
Primary series schedule**	2-doses, separated by 21 days; both doses must be the appropriate Pfizer-BioNTech vaccine formulations for recipient's age			2 doses, separated by 28 days; both doses must be Moderna vaccine	1 dose An mRNA COVID-19 vaccine series is preferred over Janssen vaccine for primary vaccination.
Additional primary dose (for moderately or severely immunocompromised persons**)	At least 28 days after Dose 2.	At least 28 days after Dose 2 of the Pfizer-BioNTech 2-dose primary series. At least 28 days after one dose of Janssen COVID-19 vaccine		At least 28 days after Dose 2 of the 2-dose primary Moderna series At least 28 days after one dose of Janssen COVID-19 vaccine	Not authorized as an additional primary dose. Moderately or severely immunocompromised persons who received a primary dose of Janssen vaccine should receive an mRNA vaccine at least 28 days after the Janssen vaccine.

* There may be instances when the only option is to transport vaccine in a punctured vial or predrawn syringe. See the U.S. Pharmacopeia COVID-19 Vaccine Toolkit: Operational Considerations for Healthcare Practitioners (<https://www.usp.org/covid-19/vaccine-handling-toolkit>) for guidance in transporting vaccine under these conditions.

† COVID-19 vaccines and other vaccines may be administered without regard to timing, including simultaneous administration.

‡ Persons with a recent SARS-CoV-2 infection may consider delaying a primary series or booster dose by 3 months from symptom onset or positive test (if infection was asymptomatic)

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	Ages 5 through 11 years (orange cap)	Ages 12 years and older (purple cap)	Ages 12 years and older (gray cap)	Ages 18 years and older	Ages 18 years and older
Booster schedule*	<ul style="list-style-type: none"> Children who are NOT moderately or severely immunocompromised: If the recipient has received 2 previous doses of Pfizer COVID-19 Vaccine, administer a booster dose at least 5 months after dose 2. Children who are moderately or severely immunocompromised: If the recipient has received 2 previous doses of Pfizer COVID-19 Vaccine, administer a booster dose at least 3 months after dose 2. 	<ul style="list-style-type: none"> Administer an age-appropriate vaccine product. Only Pfizer-BioNTech vaccine should be administered to recipients 12 -17 years of age. Use of heterologous (mix and match) booster doses is allowed for persons 18 years of age and older. Persons who are NOT moderately or severely immunocompromised and received a: <ul style="list-style-type: none"> » 2- dose mRNA vaccine primary series should receive a booster dose at least 5 months after mRNA primary series dose 2[†]. » Janssen COVID-19 Vaccine primary series should receive a booster dose at least 2 months after the dose of Janssen vaccine. Persons who ARE moderately or severely immunocompromised should receive a: <ul style="list-style-type: none"> » 3-dose mRNA vaccine primary series should receive a booster dose at least 3 months after the additional (3rd) mRNA primary series dose[‡]. » Primary dose of Janssen COVID-19 Vaccine and an additional mRNA vaccine, should receive a booster dose at least 2 months after receiving the mRNA vaccine. 			<p>mRNA vaccines are preferred[§]</p> <p>At least 2 months (8 weeks) after the primary series dose of Janssen COVID-19 Vaccine.[¶]</p> <ul style="list-style-type: none"> Persons who are moderately or severely immunocompromised and: <ul style="list-style-type: none"> » Received a primary dose of Janssen COVID-19 Vaccine and an additional mRNA vaccine, should receive a booster dose at least 2 months after the previous dose. (mRNA vaccine preferred) » Received 3 previous doses of COVID-19 vaccine should receive a 2nd booster dose at least 4 months after the previous dose (mRNA vaccine only).
	For additional information, see Interim Clinical Considerations for Use of COVID-19 Vaccines Currently Approved or Authorized in the United States https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html#considerations-covid19-vax-immunocompromised				
Primary series, additional, and booster dosage	0.2 mL for primary and booster doses	0.3 mL for all doses		0.5 mL (primary series or additional doses) 0.25 mL (booster dose)	0.5 mL (primary series or booster dose) Not approved for additional dose

* Persons with a recent SARS-CoV-2 infection may consider delaying a primary series or booster dose by 3 months from symptom onset or positive test (if infection was asymptomatic)

† Persons 50 years and older may receive a second mRNA booster dose at least 4 months after the most recent dose.

‡ Persons 12 years or older and are moderately or severely immunocompromised may receive a second mRNA booster dose at least 4 months after the most recent dose.

§ Although mRNA vaccines are preferentially recommended in most situations over the Janssen COVID-19 Vaccine, the Janssen COVID-19 Vaccine may be considered in some situations. See Interim Clinical Considerations at www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html#primary-series for additional information.

¶ People ages 18-49 years: Those who received Janssen COVID-19 Vaccine as both their primary series dose and booster dose may receive a second booster dose using an mRNA COVID-19 vaccine at least 4 months after the Janssen booster dose. People ages 50 years and older: Should receive a 2nd booster dose using an mRNA COVID-19 vaccine at least 4 months after the first booster dose.

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Needle gauge/length	5 through 18 years of age: 22–25 gauge, 1" 19 years of age and older: 22–25 gauge, 1 – 1½"			22–25 gauge, 1 – 1½"	22–25 gauge, 1 – 1½"
Site	Deltoid*			Deltoid*	Deltoid*
Thawing frozen vaccine	Between: 2°C and 8°C (36°F and 46°F) or room temperature up to 25°C (77°F) for 30 minutes. Vials must reach room temperature before dilution. Do NOT refreeze thawed vaccine.			Between: 2°C and 8°C (36°F and 46°F) or 8°C and 25°C (46°F and 77°F) Do NOT refreeze thawed vaccine.	Do NOT freeze.
Mixing vaccine	Mix vaccine with 1.3 mL of 0.9% sodium chloride (preservative-free, normal saline).	Mix vaccine with 1.8 mL of 0.9% sodium chloride (preservative-free, normal saline).	Do NOT mix with any diluent.	Do NOT mix with any diluent.	Do NOT mix with any diluent.
Contraindications/Precautions	<p>Contraindications History of:</p> <ul style="list-style-type: none"> Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a component of the COVID-19 vaccine A known diagnosed allergy to a component of the COVID-19 vaccine For the Janssen COVID-19 Vaccine, TTS following receipt of a previous Janssen vaccine (or other COVID-19 vaccines not currently authorized in the United States that are based on adenovirus vectors, e.g., AstraZeneca)[†] <p>Precautions</p> <ul style="list-style-type: none"> Allergy-related Contraindication to one type of COVID-19 vaccine (mRNA) is a precaution to other types of COVID-19 vaccines (Janssen) History of an immediate (within 4 hours exposure) non-severe allergic reaction after dose of one type of COVID-19 vaccine have a precaution to the same type of COVID-19 vaccine History of multisystem inflammatory syndrome in children (MIS-C) or multisystem inflammatory syndrome in adults (MIS-A) Moderate or severe acute illness, with or without fever History of immediate allergic reaction to any other vaccine or injectable therapy (i.e., intramuscular, intravenous, or subcutaneous vaccines or therapies [excluding subcutaneous immunotherapy for allergies, i.e., "allergy shots"]) For mRNA COVID-19 vaccines, history of myocarditis or pericarditis after a dose of an mRNA COVID-19 vaccine For Janssen COVID-19 Vaccine, a history of Guillian-Barré syndrome[‡] 				

* Vastus lateralis muscle in the anterolateral thigh may be used. A 1.5 inch needle should be used, although a 1 inch needle may be used if the skin is stretched tightly and subcutaneous tissues are not bunched.

† Additionally, people with a history of an episode of immune-mediated syndrome characterized by thrombosis and thrombocytopenia, such as spontaneous or classic HIT, should not receive Janssen COVID-19 Vaccine. These people should receive an mRNA COVID-19 vaccine.

‡ People who develop GBS within 6 weeks after receipt of Janssen COVID-19 Vaccine should not receive another dose of Janssen COVID-19 Vaccine. These people should receive an mRNA COVID-19 vaccine.

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Post-vaccination observation	<p>30 minutes: People with a history of a contraindication to another type of COVID-19 vaccine product, immediate (within 4 hours of exposure) non-severe allergic reaction to a COVID-19 vaccine, immediate allergic reaction of any severity to a non-COVID-19 vaccine or injectable therapies, anaphylaxis due to any cause</p> <p>15 minutes: All other persons</p>				
Most common adverse events	<p>Injection site: pain, swelling, redness</p> <p>Systemic: fatigue, headache, muscle pain, chills, fever, joint pain</p>			<p>Injection site: pain, swelling, redness</p> <p>Systemic: fatigue, headache, muscle pain, chills, fever, nausea, joint pain</p>	<p>Injection site: pain, redness, swelling</p> <p>Systemic: fatigue, headache, muscle pain, nausea, fever</p>