

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 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
How Supplied	Multidose vial: 10 doses	Multidose vial: 6 doses	Multidose vial: 6 doses	Multidose vial: 5 doses
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
	1.3 mL of diluent	1.8 mL of diluent		
Storage Temperatures: Before Puncture	Between: -90°C and -60°C (-130°F and -76°F) until the expiration date 2°C and 8°C (36°F and 46°F) for up to 10 weeks 8°C and 25°C (46°F and 77°F) for a total of 12 hours prior to dilution Do NOT freeze or store in a standard freezer	Between: -90°C and -60°C (-130°F and -76°F) until the expiration date -25°C and -15°C (-13°F and 5°F) for up to 2 weeks 2°C and 8°C (36°F and 46°F) for up to 1 month (31 days) Up to 25°C (77°F) for a total of 2 hours (prior to dilution)	Between: -90°C and -60°C (-130°F and -76°F) until the expiration date 2°C and 8°C (36°F and 46°F) for up to 10 weeks 8°C and 25°C (46°F and 77°F) for a total of 12 hours prior to first puncture Do NOT freeze or store in a standard freezer	Between: -50°C and -15°C (-58°F and 5°F) until the expiration date 2°C and 8°C (36°F and 46°F) for up to 30 days 8°C and 25°C (46° and 77°F) for a total of 24 hours

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Storage Temperatures: After Puncture	Between: 2°C and 25°C (36°F and 77°F) for up to 12 hours Discard any unused vaccine after 12 hours.	Between: 2°C and 25°C (36°F and 77°F) for up to 6 hours Discard any unused vaccine after 6 hours.	Between: 2°C and 25°C (36°F and 77°F) for up to 12 hours Discard any unused vaccine after 12 hours.	Between: 2°C and 25°C (36°F and 77°F) for up to 12 hours Discard vial and any unused vaccine after 12 hours or after the vial has been punctured 20 times.	Between: 2°C and 8°C (36°F and 46°F) for up to 6 hours 9°C and 25°C (47°F and 77°F) for up to 2 hours Discard any unused vaccine after these time frames.
Transport Temperatures: Before Puncture	A tray containing vaccine vials between -90°C and -60°C (-130°F and -76°F) or Individual vials between 2°C and 8°C (36°F and 46°F)	A tray of vaccine vials between -90°C and -60°C (-130°F and -76°F) or 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.	A tray containing vaccine vials between -90°C and -60°C (-130°F and -76°F) or Individual vials between 2°C and 8°C (36°F and 46°F)	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	Between: 2°C and 8°C (36°F and 46°F)
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 COVID-19 Vaccine for primary vaccination.
Additional (3rd) Dose for Moderately or Severely Immunocompromised People‡	At least 28 days after completion of the primary series (2nd dose)			At least 28 days after completion of the primary series (2nd dose)	Not authorized as an additional primary dose. See booster dose schedule.

* CDC recommends following manufacturer's instructions for transporting 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.

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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*	Not authorized for this age group.	<p>At least 5 months after the last dose of a COVID-19 mRNA vaccine primary series (i.e., after the 2nd dose or the additional [3rd] dose for moderately and severely immunocompromised persons)</p> <ul style="list-style-type: none"> Persons who received a Janssen COVID-19 Vaccine as the primary series should receive a booster dose at least 2 months after the Janssen vaccine. Use of heterologous (mix and match) booster doses is allowed for persons 18 years of age and older. Only a Pfizer-BioNTech vaccine should be administered to patients 12-17 years of age. 	<p>At least 5 months after the last dose of a COVID-19 mRNA vaccine primary series (i.e., after the 2nd dose or the additional [3rd] dose for moderately and severely immunocompromised persons)</p> <ul style="list-style-type: none"> Persons who received a Janssen COVID-19 Vaccine as the primary series should receive a booster dose at least 2 months after the Janssen vaccine. Use of heterologous (mix and match) booster doses is allowed for persons 18 years of age and older. 	<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 received a COVID-19 mRNA vaccine primary series (i.e., after the 2nd dose or the additional [3rd] dose for moderately and severely immunocompromised persons) can receive a Janssen booster dose at least 5 months after the primary series. mRNA vaccines are preferred.† Use of heterologous (mix and match) booster doses is allowed. mRNA vaccines are preferred.† A moderately or severely immunocompromised person who received a primary Janssen COVID-19 Vaccine should not receive more than 1 booster dose (total of 2 doses). 	
<p>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</p>					
Primary Series, Additional Primary, and Booster Dosage	0.2 mL for primary doses An additional primary dose or booster dose is not recommended at this time.	0.3 mL for all doses		0.5 mL (primary series or additional primary doses) 0.25 mL (booster dose)	0.5 mL (primary series or booster dose) An additional primary dose is not recommended.
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‡

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

† 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.

‡ 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.

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Thawing Frozen Vaccine	<p>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.</p>			<p>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.</p>	<p>Do NOT freeze.</p>
Mixing Vaccine	<p>Allow vial(s) to reach room temperature before mixing. Mix vaccine with 1.3 mL of 0.9% sodium chloride (preservative-free, normal saline).</p>	<p>Allow vial(s) to reach room temperature before mixing. Mix vaccine with 1.8 mL of 0.9% sodium chloride (preservative-free, normal saline).</p>	<p>Do NOT mix with any diluent.</p>	<p>Do NOT mix with any diluent.</p>	<p>Do NOT mix with any diluent.</p>
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 component of the COVID-19 vaccine Known diagnosed allergy to a component of the vaccine (see https://www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html#Appendix-C for a list of vaccine components) For the Janssen COVID 19 Vaccine, thrombosis with thrombocytopenia syndrome (TTS) following receipt of a previous Janssen COVID-19 Vaccine (or other COVID-19 vaccines not currently authorized in the United States that are based on adenovirus vectors) <p>Precautions</p> <ul style="list-style-type: none"> Most people determined to have a precaution to a COVID-19 vaccine at their appointment can and should be administered vaccine. Immediate allergic reaction* to any non-COVID-19 or injectable therapy (i.e., intramuscular, intravenous, or subcutaneous vaccines or therapies [excluding subcutaneous immunotherapy for allergies, i.e., “allergy shots”]) <ul style="list-style-type: none"> This includes non-COVID-19 vaccines and therapies with multiple components and the component(s) that elicited the reaction is unknown Immediate (within 4 hours after vaccination) non-severe, allergic reaction to a previous dose of the COVID-19 vaccine† Contradiction to one type of COVID-19 vaccines (mRNA) is a precaution to other types of COVID-19 vaccines (Janssen) Moderate to severe acute illness 				
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>

* 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.

† For the purpose of this guidance, an immediate allergic reaction is defined as any hypersensitivity-related signs or symptoms such as urticaria, angioedema, respiratory distress (e.g., wheezing, stridor), or anaphylaxis that occur within 4 hours following exposure to a vaccine or medication.