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**	**Ages 18 years and older**
How Supplied	**Multidose vial:** 10 doses	**Multidose vial:** 6 doses	**Multidose vial:** 6 doses	**Multidose vial:** Maximum of 15 primary-series doses or 20 booster doses. Do not puncture the vial stopper more than 20 times.	**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	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	**Between:** 2°C and 8°C (36°F and 46°F) until the expiration date 9°C and 25°C (47°F and 77°F) for up to 12 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 t -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 vaccine for primary vaccination.
Additional Dose for Moderately or Severely Immunocompromised People‡	At least 28 days after completion of the primary Pfizer-BioNtech 2-dose series At least 28 days after one dose of Janssen COVID-19 vaccine			At least 28 days after completion of the primary 2-dose 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.

* 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.	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) • 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. • Persons who are moderately or severely immunocompromised and received a 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. • 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.		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) • 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. • Persons who are moderately or severely immunocompromised and received a 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. • Use of heterologous (mix and match) booster doses is allowed for persons 18 years of age and older.	mRNA vaccines are preferred† At least 2 months (8 weeks) after the primary series dose of Janssen COVID-19 Vaccine. • Persons who are moderately or severely immunocompromised and received a 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. • 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.
		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-immuncompromised			
Primary Series, Additional, 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 doses) 0.25 mL (booster dose)	0.5 mL (primary series or booster dose) Do not use for additional dose.
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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	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**
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	Allow vial(s) to reach room temperature before mixing. Mix vaccine with 1.3 mL of 0.9% sodium chloride (preservative-free, normal saline).	Allow vial(s) to reach room temperature before mixing. 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	**Contraindications** History of: • 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, e.g., Astrazeneca) **Precautions** • 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"]) » 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, with or without fever • For mRNA COVID-19 vaccines, history of myocarditis or pericarditis after a dose of an mRNA COVID-19 vaccine				
Post-Vaccination Observation	**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 **15 minutes:** All other persons				
Most Common Adverse Events	**Injection site:** pain, swelling, redness **Systemic:** fatigue, headache, muscle pain, chills, fever, joint pain			**Injection site:** pain, swelling, redness **Systemic:** fatigue, headache, muscle pain, chills, fever, nausea, joint pain	**Injection site:** pain, redness, swelling **Systemic:** fatigue, headache, muscle pain, nausea, fever

* 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.