




Ensuring Proper COVID-19 Vaccine Administration

April 8, 2021

Housekeeping

- **How to Ask Questions**

- Click on the  icon found at the bottom part of your screen
- A box will open where you can type in questions, comments, indicate sound problems, etc.
- Use this throughout the webinar to ask questions

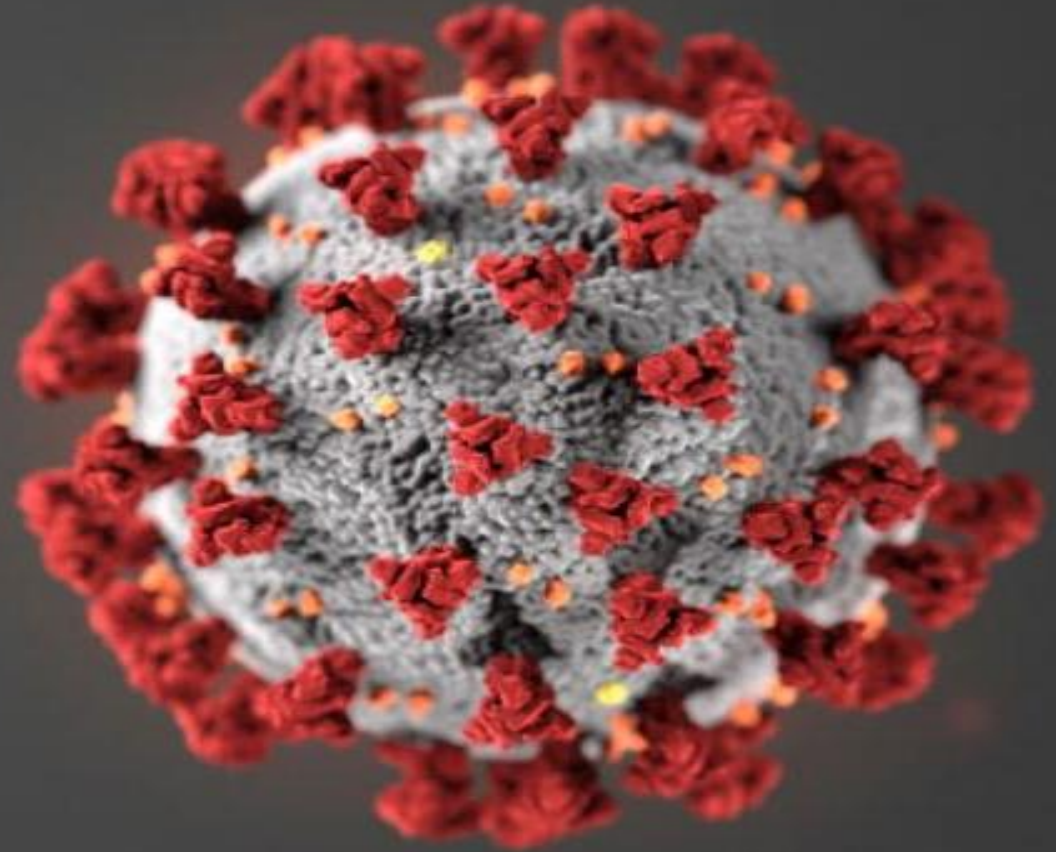
- **Slides & Recording**

- This webinar is being recorded and a link as well as slides will be emailed out through our listserv as well as posted on our website at: www.michigan.gov/COVIDvaccine → Provider Guidance and Education

Topics Covered

- COVID-19 Vaccine Preparation/Administration
 - Pfizer-BioNTech
 - Moderna
 - Janssen
- COVID-19 Vaccine Administration Summary
- Administration Equipment and Anatomical Site
- COVID-19 Vaccine Administration Errors and Deviations
- Additional Vaccine Administration Resources

COVID-19 Vaccine Preparation/Administration



COVID-19 Vaccination

Product Info by US Vaccine +

Clinical Care +

Provider Requirements and Support +

Training and Education +

Vaccine Recipient Education +

Health Departments +

Planning & Partnerships +

Vaccine Effectiveness Research

Vaccination Toolkits +

COVID-19 Vaccination

Clinical Resources for Each COVID-19 Vaccine

Find information for COVID-19 vaccination administration, storage and handling, reporting, and patient education for each specific vaccine

[Product Information by US Vaccine](#)



Vaccines for COVID-19: Information for You and Your Family

Individuals looking for information about COVID-19 vaccines should [visit the COVID-19 website](#).

U.S. COVID-19 Vaccine Product Information

Find a suite of information and materials that are needed for each specific COVID-19 vaccine that cover administration, storage and handling, safety, and reporting.

Pfizer-BioNTech

Moderna

Janssen/J&J

Requirements, Trainings, and Resources

Vaccine Storage and Handling Toolkit

COVID-19 Vaccine Quick Reference Guide for Healthcare Professionals 

Training and Education

<https://www.cdc.gov/vaccines/covid-19/info-by-product/index.html>



» **Administer the Vaccine**

<p>Assess recipient status:</p> <ul style="list-style-type: none"> Screen for contraindications and precautions. Review vaccination history. Review medical considerations. 	
<p>Choose the correct equipment, including the correct needle size.</p> <ul style="list-style-type: none"> Use a new, sterile needle and syringe for each injection. Use low dead-volume syringes/needles to extract 6 doses from a single vial. If sufficient low-dead volume syringes are not available, withdraw vaccine using a combination of low dead-volume syringes and non-low dead-volume syringes per vial (e.g., 4 low dead-volume syringes and 2 non-low dead-volume syringes). 	
<p>Cleanse the stopper on the vial of mixed vaccine with a new, sterile alcohol prep pad. Withdraw 0.3 mL of mixed vaccine into the syringe.</p> <ul style="list-style-type: none"> Regardless of the type of syringe used, ensure the amount of vaccine in the syringe equals 0.3 mL. If the amount of vaccine remaining in the vial cannot provide a full 0.3 mL dose, discard the vial and contents. Do NOT combine vaccine from multiple vials to obtain a dose. 	 0.3 mL

» **General Information**

Vaccine: COVID-19 vaccine (Pfizer)
 Diluent: 0.9% sodium chloride (normal saline, preservative-free) Use a new vial every time.
 Multidose vial: 6 doses per vial
 Dosage: 0.3 mL
Vaccine MUST be mixed with diluent before administration.

» **Age Indications**

16 years of age and older

» **Schedule**

2-dose series separated by 21 days
 A series started with COVID-19 vaccine (Pfizer) should be completed with this product.

» **Administration**

Intramuscular (IM) injection in the deltoid muscle

» **Thawing Frozen Vaccine**

- Frozen vaccine must be thawed before using.
- Thaw vaccine in the refrigerator or at room temperature:
 - Refrigerator: Between 2°C and 8°C (36°F and 46°F). Unpunctured vials may be stored up to 120 hours (5 days).
 - Room temperature (for immediate use): Unpunctured vials cannot be stored for more than 2 hours (including time needed to thaw).
- Amount of time needed to thaw vaccine varies based on temperature and number of vials.
- Do NOT** refreeze thawed vaccine.

» **Prepare the Vaccine**

Follow aseptic technique. Perform hand hygiene before vaccine preparation, before and after mixing, and when changing gloves (if worn). Hands should be washed with soap and water for 20 seconds or use hand sanitizer if hands become soiled.*

Remove vaccine from the freezer. Allow vaccine to come to room temperature before mixing.

Before mixing, check the expiration date of the vaccine and diluent. NEVER use expired vaccine. The expiration dates for the vaccine are located on the vial label.

With the vaccine at room temperature, gently swirl the vial 10 times. Do not shake the vial. If the vaccine is shaken, contact the manufacturer. The vaccine should appear white to off-white in color and free of particles. Do not use if liquid is cloudy or contains particles.

Using a new, sterile alcohol prep pad, wipe off the stoppers of the diluent vials. Using a 21-gauge (or narrower) needle, withdraw 1.8 mL of 0.9% sodium chloride (normal saline, preservative-free) into the syringe. Discard diluent vial and any remaining diluent every time. Do NOT use bacteriostatic diluent.

How to Thaw, Prepare, and Administer the Pfizer-BioNTech Vaccine

How to Thaw the Vaccine +

How to Prepare the Vaccine +

How to Administer the Vaccine +

Scheduling Doses +

COVID-19 Vaccine (Pfizer) Administration Resources

[Pfizer COVID-19 Vaccine Standing Orders](#)

[Preparation and Administration Summary](#)

[Preparation Infographic](#) (new)

[Prevaccination Screening Form](#)

[English](#) | [Arabic](#) | [Español](#) | [French](#) | [Korean](#) | [Simplified Chinese](#) | [Vietnamese](#)

[Vaccine administration training and clinical materials](#)

*It is not necessary to change needles between drawing vaccine from a vial and injecting.

» **Scheduling Doses**

Vaccination History ^{††}	And
0 doses	
1 dose (Pfizer COVID-19 Vaccine)	It has been at least 21 days since dose 1
	It has not been at least 21 days from dose 1
2 doses (Pfizer COVID-19 Vaccine) at least 21 days apart [§]	
2 doses (1 product unknown) at least 28 days apart [§]	


^{††}mRNA COVID-19 vaccines should not be administered at the same time as other vaccines or after the administration of mRNA COVID-19 vaccine. However, mRNA COVID-19 vaccine may be administered at the same time as other vaccines where the benefits of vaccination are deemed to outweigh the potential unknown risks as part of wound management, rabies vaccination for post-exposure prophylaxis, or delays in mRNA COVID-19 vaccination.

[§]Every effort should be made to determine whether a vaccine product cannot be determined or is not available.

[§]Administer the second dose as close to the first dose as possible. The series does not need to be restarted. Do not administer a third dose.


<https://www.cdc.gov/vaccines/covid-19/info-by-product/pfizer/index.html>

Pfizer-BioNTech COVID-19 Vaccine
Vaccine Preparation













Prepare the injection with the correct needle length based on the recipient's age, gender, and weight (for persons 19 years of age and older).

- Use aseptic technique to mix the vaccine and prepare the injection.
- Prepare the vaccine using a **NEW** vial of diluent and a **NEW** vial of vaccine **EVERY TIME**.
- Prepare the injection using a new, sterile needle and syringe **EVERY TIME**.









Mixing Vaccine

Do	Don't
 Use the needles and syringes labeled for mixing vaccine and diluent in the ancillary supply kit.	 Do NOT use for administration.
 Use 0.9% sodium chloride (normal saline, preservative-free) ONLY .	 Do NOT use or other diluent.
 Mix 1.8 mL of the diluent with the thawed vaccine.* Slowly inject diluent to prevent excess foaming or bubbling.	 Do NOT use.
 Gently invert the vial 10 times before and after adding the diluent.	 Do NOT shake.
 Discard the diluent vial after mixing the vaccine.	 Do NOT use diluent to mix vaccine or for other purposes.

Withdrawing 6 doses of vaccine from the vial

After mixing, a vial of Pfizer-BioNTech COVID-19 vaccine contains up to six 0.3 mL doses of vaccine and/or needles to withdraw 6 doses.

- If sufficient quantities of low-dead volume syringes are not available, withdraw vaccine using 3 low-dead volume syringes and 3 non-low-dead volume syringes (e.g., 3 low-dead-volume syringes and 3 non-low-dead volume syringes).

Do	Don't
 When mixing and withdrawing vaccine, insert the needle into different places on the vial septum.	 Do NOT use every time. Leak from the vial.
 Leave syringe in vial to remove air bubbles, when applicable.	 Do NOT remove needle outside vial. Air can be easily drawn into the syringe.
 If, after withdrawing 5 doses, the amount of vaccine left in the vial is not a full dose, discard the vial and remaining vaccine.	 Do NOT combine multiple vials.

02/18/2021 C33215/01N

Pfizer COVID-19 Vaccine Preparation Infographic-NEW!

How to Thaw, Prepare, and Administer the Pfizer-BioNTech Vaccine	
How to Thaw the Vaccine	+
How to Prepare the Vaccine	+
How to Administer the Vaccine	+
Scheduling Doses	+
COVID-19 Vaccine (Pfizer) Administration Resources	
Pfizer COVID-19 Vaccine Standing Orders 	Prevaccination Screening Form
Preparation and Administration Summary 	English  Arabic  Español  French  Korean  Simplified Chinese  Vietnamese 
Preparation Infographic  (new)	Vaccine administration training and clinical materials

<https://www.cdc.gov/vaccines/covid-19/info-by-product/pfizer/downloads/diluent-poster.pdf>

Maximizing Doses of Pfizer-BioNTech COVID-19 Vaccine



COVID-19 Vaccine Handling Toolkit

Maximizing Doses of Pfizer-BioNTech COVID-19 Vaccine

Last Updated 03/05/2021

Consistently maximizing doses per vial of COVID-19 vaccines is essential to administering vaccines to more people. Selection of syringe and needle as well as technique for preparing doses to optimize vial pressure is key to maximizing doses for each Pfizer-BioNTech COVID-19 Vaccine vial. The USP COVID-19 Vaccine Handling Toolkit: Operational Considerations for Healthcare Practitioners, offers considerations to ensure complete doses are withdrawn and additional safe practices. Visit www.usp.org/covid-vaccine-handling to learn more.

Syringe and Needle Type

Maximize doses withdrawn from vials (at least 6 doses) by utilizing low-dead volume (LDV) syringes/needles whenever possible. Practice settings that may not have adequate quantities of LDV syringes can maximize doses by utilizing a combination of LDV and non-LDV syringes (e.g., 3 LDV syringes and 3 non-LDV syringes). The ratio of LDV to non-LDV syringes should be dependent on the type of syringe and needle used. Additional considerations to support dose optimization include:

- Use 1-inch needles, 21-gauge or narrower (e.g., 25-gauge), to withdraw vaccine.
- Use 1 mL syringes with 0.01 mL markings for accurate dose withdrawal.
- Use needle that is fixed to syringe, with safety mechanism.
- Use the correct needle gauge and length for the recipient patient based on age, gender and weight recommendations based on CDC's [Vaccine Administration: Needle Gauge and Length guide](#).

Preparing Pfizer-BioNTech COVID-19 Vaccine

The [Pfizer-BioNTech COVID-19 Vaccine resource webpage](#) provides preparation instruction that should be reviewed to ensure quality vaccine preparation. The following are additional considerations for withdrawing doses including optimizing vial pressure to ensure maximizing doses for each Pfizer-BioNTech COVID-19 Vaccine vial.

Follow aseptic technique throughout vaccine preparation.

Prepare for Dilution

- 1 A Pfizer-BioNTech COVID-19 vaccine vial must reach room temperature before dilution and be diluted within 2 hours of removal from frozen or refrigerated storage.
- 2 Inspect liquid to ensure it is a white to off-white suspension which may contain white to off-white opaque amorphous particles.
- 3 Invert vaccine vial gently 10 times. Do not shake.



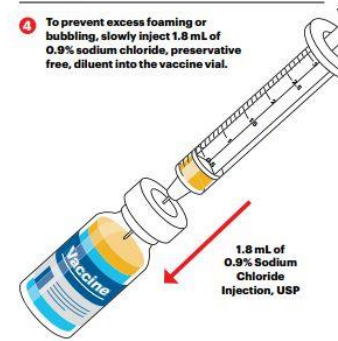
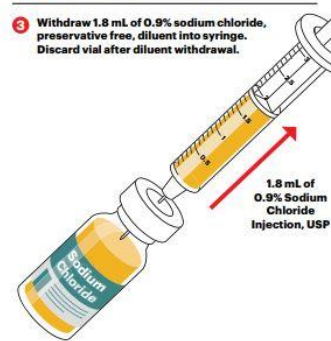
Continued on next page

The standard of trust

Preparing Pfizer-BioNTech COVID-19 Vaccine cont.

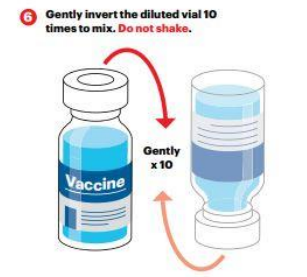
Dilute the vaccine

- 1 Wipe diluent vial stopper using sterile alcohol swab.
- 2 If applicable, ensure needle and syringe are tightly luer-locked together.
- 3 Withdraw 1.8 mL of 0.9% sodium chloride, preservative free, diluent into syringe. Discard vial after diluent withdrawal.



HQS162F_2021-01

The standard of trust

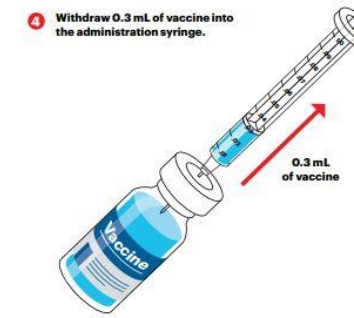
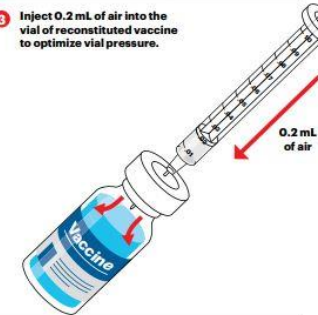


Continued on next page

Preparing Pfizer-BioNTech COVID-19 Vaccine cont.

Draw up each dose of the vaccine

- 1 Wipe vaccine vial stopper using sterile alcohol swab.
- 2 If applicable, ensure needle and syringe are tightly luer-locked together.
- 3 Inject 0.2 mL of air into the vial of reconstituted vaccine to optimize vial pressure.

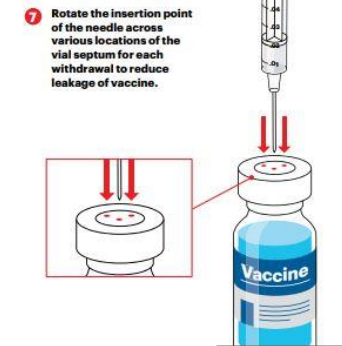


HQS162F_2021-01

The standard of trust

- 5 While small air bubbles can be ignored, large air bubbles can lead to underdosing and should be addressed. Minimize tapping of the syringe due to theoretical risk of inactivating the vaccine or degrading quality.

- 6 Utilize safe practices when recapping the needle after withdrawing and before administering.



This information will be updated as additional vaccines are authorized and other information becomes available. Visit www.usp.org/covid-vaccine-handling for the latest and to sign up for updates.

<https://www.usp.org/sites/default/files/usp/document/our-impact/covid-19/maximizing-doses-of-the-pfizer-biontech-covid19-vaccine.pdf>

Pfizer-BioNTech Preparation/Administration Key Points

- Use aseptic technique to mix the vaccine and prepare the injection
 - Vaccine does not contain a preservative
- EVERY TIME
 - Use a NEW diluent vial and a NEW vaccine vial when preparing the vaccine
 - Use a NEW sterile needle and syringe when preparing the injection
- Check expiration dates on vaccine vial and diluent- Never use expired vaccine or diluent
- When mixing diluent with the vaccine
 - ONLY use the needles and syringes LABELED for mixing from the ancillary supply kit
 - Do NOT use the needles and syringes designated for administration

Pfizer-BioNTech Preparation/Administration Key Points Cont.

- Allow vaccine to come to room temperature
 - Vials can be held at room temperature for up to 2 hours before mixing
 - Amount of time needed to thaw vaccine varies based on temperature and number of vials
- Gently invert vial 10 times before and after adding diluent
 - If vial is shaken contact the manufacturer
- Mix 1.8 mL of diluent with thawed vaccine-Do NOT use all the diluent in the vial
 - Slowly inject diluent to prevent excess foaming or bubbling
 - Do NOT use bacteriostatic normal saline or other diluents to mix the vaccine
- Leave syringe in vial to remove air bubbles, when applicable

Pfizer-BioNTech Preparation/Administration Key Points Cont.

- When mixing and withdrawing vaccine, insert needle into different places on vial septum
- Keep mixed vaccine between 2°C and 25°C (36°F and 77°F) and administer within 6 hours. Discard any unused vaccine after 6 hours
 - Note the date/time the vaccine was mixed on the vial
- After withdrawing 5 doses, if amount of vaccine left in vial is not a full dose (0.3mL), discard the vial and remaining vaccine
 - Do NOT combine remaining vaccine from multiple vials to obtain a full dose
- Administer vaccine immediately by intramuscular (IM) injection in the deltoid muscle

U.S. COVID-19 Vaccine Product Information

Find a suite of information and materials that are needed for each specific COVID-19 vaccine that cover administration, storage and handling, safety, and reporting.

Pfizer-BioNTech

Moderna

Janssen/J&J

Requirements, Trainings, and Resources

Vaccine Storage and Handling Toolkit

COVID-19 Vaccine Quick Reference Guide for Healthcare Professionals 

Training and Education

<https://www.cdc.gov/vaccines/covid-19/info-by-product/index.html>



» **Prepare and Administer the Vaccine (continued)**

Ensure the needle and syringe are secured tightly together to prevent dislodging during preparation and administration.

Withdraw 0.5 mL of vaccine into the syringe. Ensure the prepared syringe is ready for use.

- Discard vial when there is not enough vaccine to obtain a complete dose.
- Do NOT combine residual vaccine from multiple vials to obtain a dose.

Note the date and time the vial was first punctured. **Keep the vaccine (36°F and 77°F) for up to 6 hours. Discard any unused vaccine after 6 hours.**

Bring the dose of vaccine from the designated preparation area in the refrigerator to the administration area.

Ensure staff has the correct PPE before administering vaccine and immunizing vaccine recipients (if tolerated).

Administer the vaccine immediately by intramuscular (IM) injection in the deltoid muscle.

Observe recipients after vaccination for an immediate adverse reaction for **30 minutes**. Persons with a:

- History of an immediate allergic reaction of any severity to a vaccine component
- Contraindication to Janssen COVID-19 Vaccine who receive Moderna COVID-19 Vaccine
- History of anaphylaxis due to any cause

*It is not necessary to change needles between drawing vaccine from a vial and injecting into a recipient.

» **Scheduling Doses**

Vaccination History ^{1,5}	And
0 doses	→
1 dose (Moderna COVID-19 Vaccine)	It has been at least 28 days since dose 1
	It has not been at least 28 days since dose 1
2 doses (Moderna COVID-19 Vaccine) at least 28 days apart ⁴	→
2 doses (1 product unknown) at least 28 days apart ⁴	→

¹mRNA COVID-19 vaccines should not be administered at the same time as other vaccines or after the administration of mRNA COVID-19 vaccine. However, mRNA COVID-19 and other vaccines can be administered at the same time if the benefits of vaccination are deemed to outweigh the potential unknown risks of vaccine administration, rabies vaccination for post-exposure prophylaxis, measles or hepatitis B vaccination.

⁵Every effort should be made to determine which vaccine is most appropriate for the recipient, based on the information available.

⁴Administer the second dose as close to the first dose as possible. If the series does not need to be restarted, Dosage: 0.5 mL.

» **General Information**

Vaccine: COVID-19 vaccine (Moderna)
Multidose vial: 10 doses per vial
Dosage: 0.5 mL
Do NOT mix with a diluent.

» **Age Indications**

18 years of age and older

» **Schedule**

2-dose series separated by 1 month (28 days). A series started with COVID-19 vaccine (Moderna) should be completed with this product.

» **Administration**

Intramuscular (IM) injection in the deltoid muscle

» **Thawing Frozen Vaccine**

- Frozen vaccine must be thawed before using.
- Amount of time needed to thaw vaccine varies based on temperature and number of vials.
 - In the refrigerator: Approximately 2 hours and 30 minutes
 - Room temperature: Approximately 1 hour
- Do NOT refreeze thawed vaccine.

» **Expiration Date**

To determine the expiration date, scan the QR code, enter the lot number, and visit www.modernatx.com/covid19vaccine-eua or www.pfizer.com/downloads/expiration-tracker.pdf

» **Prepare and Administer the Vaccine**

Assess recipient status:
Screen for contraindications and precautions.

Follow aseptic technique. Perform hand hygiene (if worn), and any time hands become soiled.

Vaccine must be thawed before using. If refrigerated, allow to thaw for 15 minutes.

Unpunctured vials: Check the expiration date.
Punctured vials: Check the beyond-use date.

With the vial upright, gently swirl the vaccine before withdrawing the dose.
Note: Gently swirl the vaccine before withdrawing the dose.

Examine the vaccine. It should be white to off-white and clear. Do not use if liquid contains other particulate matter.

Using a new, sterile alcohol prep pad, clean the injection site.

Choose the correct equipment, including the correct needle size. Use a new, sterile needle and syringe for each injection.

How to Thaw, Prepare, and Administer the Moderna Vaccine

How to Thaw the Vaccine	+
How to Prepare the Vaccine	+
How to Administer the Vaccine	+
Scheduling Doses	+

COVID-19 Vaccine (Moderna) Administration Resources

- Moderna COVID-19 Vaccine Standing Orders
- Preparation and Administration Summary
- Vaccine Expiration Date Tracking Tool
- Prevaccination Screening Form
 - English
 - Arabic
 - Español
 - French
 - Korean
 - Simplified Chinese
 - Vietnamese
- Vaccine administration training and clinical materials

<https://www.cdc.gov/vaccines/covid-19/info-by-product/moderna/index.html>

Moderna Preparation/Administration Key Points

- Use aseptic technique to prepare the injection
 - Vaccine does not contain a preservative
- DO NOT mix with a diluent
- Vaccine must be thawed before using. If removing the vial from the refrigerator, let it stand at room temperature for 15 minutes
 - Amount of time needed to thaw vaccine varies based on temperature and number of vials
- Check expiration date of vaccine and diluent- Never use expired vaccine or diluent
 - This includes the Beyond Use Date for punctured vials
- Choose the correct equipment, including the correct needle size
- Use a new, sterile needle and syringe for each injection
- Ensure the needle and syringe are tightly together to prevent vaccine from leaking

Moderna Preparation/Administration Key Points Cont.

- With vial upright, gently swirl the vaccine-Do NOT shake
 - If vial is shaken, contact the manufacturer
 - Gently swirl the vaccine before withdrawing subsequent doses
- Withdraw 0.5 mL of vaccine into the syringe
 - Discard vial when there is not enough vaccine to obtain a complete dose
 - Do NOT combine residual vaccine from multiple vials to obtain a dose
 - Regardless of the type of syringe used, ensure the amount of vaccine in the syringe equals 0.5 mL
- Keep the vaccine between 2°C and 25°C (36°F and 77°F) for up to 12 hours. Discard any unused vaccine after 12 hours
 - Note the date and time the vial was first punctured
- Administer vaccine immediately by intramuscular (IM) injection in the deltoid muscle

U.S. COVID-19 Vaccine Product Information

Find a suite of information and materials that are needed for each specific COVID-19 vaccine that cover administration, storage and handling, safety, and reporting.

Pfizer-BioNTech

Moderna

Janssen/J&J

Requirements, Trainings, and Resources

Vaccine Storage and Handling Toolkit

COVID-19 Vaccine Quick Reference Guide for Healthcare Professionals 

Training and Education

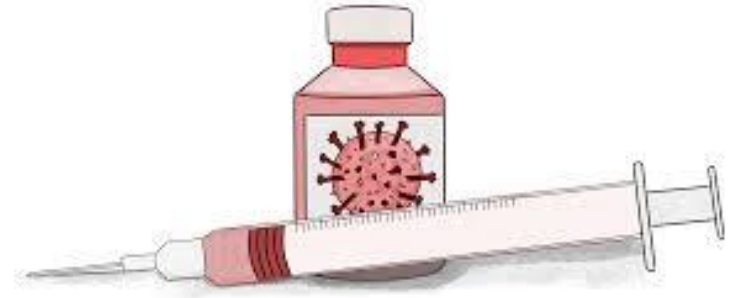
<https://www.cdc.gov/vaccines/covid-19/info-by-product/index.html>

Janssen COVID-19 Vac (Johnson & Johnson)

Vaccine Preparation and Administration Summary

Janssen COVID-19 Vaccine (Johnson & Johnson)

Vaccine Preparation and Administration Summary



Contraindications and Precautions

Contraindications:

- Severe allergic reaction (e.g., anaphylaxis) to a component of Janssen COVID-19 Vaccine
- Immediate allergic reaction* of any severity or known (diagnosed) allergy to a component of the vaccine (see Table 1 in this document for a list of ingredients in COVID-19 vaccines)

Note: Persons who have a contraindication to Janssen COVID-19 Vaccine may be able to receive an mRNA COVID-19 vaccine (see footnote).¹

Precautions:

- History of an immediate allergic reaction* to any other vaccine or injectable therapy (i.e., intramuscular, intravenous, or subcutaneous vaccines or therapies)
 - This includes persons with a reaction to a vaccine or injectable therapy that contains multiple components, one of which is polysorbate or another vaccine component, but for whom it is unknown which component elicited the immediate allergic reaction.
- People with a contraindication to either mRNA COVID-19 vaccine have a precaution to Janssen COVID-19 Vaccine.¹
- Moderate or severe acute illness

For more information, please see Interim Clinical Considerations for Use of COVID-19 Vaccines Currently Authorized in the United States at www.cdc.gov/vaccines/covid-19/info-by-product/clinical-considerations.html.

Management of Anaphylaxis

Be prepared to manage medical emergencies.

- Have a written protocol to manage medical emergencies following vaccination, as well as equipment and medications, including at least 3 doses of epinephrine, H1 antihistamine, blood pressure monitor, and timing device to assess pulse.
- Healthcare personnel who are trained and qualified to recognize the signs and symptoms of anaphylaxis as well as administer intramuscular epinephrine should be available at the vaccination location at all times.

For more information, please see Interim Considerations: Preparing for the Potential Management of Anaphylaxis after COVID-19 Vaccination at <https://www.cdc.gov/vaccines/covid-19/clinical-considerations/managing-anaphylaxis.html>.

Document the Vaccination

COVID-19 vaccination providers must document vaccine administration in their medical record systems within 24 hours of administration. They should aim to report administration data to the relevant system for the jurisdiction (e.g., the state information system) as soon as practicable, but no later than 24 hours after administration.

General Information

Vaccine: Janssen COVID-19 Vaccine (Johnson & Johnson)
Multidose vial: 5 doses per vial
Dosage: 0.5 mL

Do NOT mix with a diluent. Discard vial when there is not enough vaccine to obtain a complete dose. Do NOT combine residual vaccine from multiple vials to obtain a dose.

Age Indications

18 years of age and older

Schedule

1 dose
Do not use the Janssen COVID-19 Vaccine as part of any other COVID-19 vaccine series.

Administration

Intramuscular (IM) injection in the deltoid muscle

Expiration Date

The expiration date is NOT printed on the vaccine vial or carton. To determine the expiration date:

- Scan the QR code located on the outer carton, or
- Call 1-800-565-4008, or
- Go to www.vaxcheck.jnj

Write date on carton. As the expiration date approaches, check the expiration date again. Do not discard vaccine until ensuring the expiration date has passed. Use CDC's expiration date tracking tool to document expiration date changes.

Prepare and Administer the Vaccine

Assess recipient status:

- Screen for contraindications and precautions
- Review vaccination history.
- Review medical considerations.

Follow aseptic technique. Perform hand hygiene before vaccine preparation, between patients, when gloves (if worn), and any time hands become contaminated.

Unpunctured vials: Check the expiration date and use expired vaccine.

Punctured vials: Check the beyond-use time and use vaccine after the beyond-use time.

With the vial upright, gently swirl the vaccine for **seconds. Do NOT shake.** If the vial is shaken, the manufacturer. Note: Gently swirl the vial before withdrawing subsequent doses.

Examine the vaccine. It should be a colorless to slightly yellow, clear to very opalescent suspension. Do not use if liquid contains particulate matter or is discolored.

Using a new, sterile alcohol prep pad, clean the stopper of the multidose vaccine vial.

Choose the correct equipment, including the needle size. Use a new, sterile needle and syringe for each injection.

How to Prepare and Administer the Janssen Vaccine

How to Prepare the Vaccine +

How to Administer the Vaccine +

Scheduling +

Janssen COVID-19 Vaccine Administration Resources

Janssen COVID-19 Vaccine Standing Orders

Preparation and Administration Summary

Prevaccination Screening Form

English | Arabic | Español | French | Korean | Simplified Chinese | Vietnamese

Vaccine administration training and clinical materials

<https://www.cdc.gov/vaccines/covid-19/info-by-product/janssen/index.html>

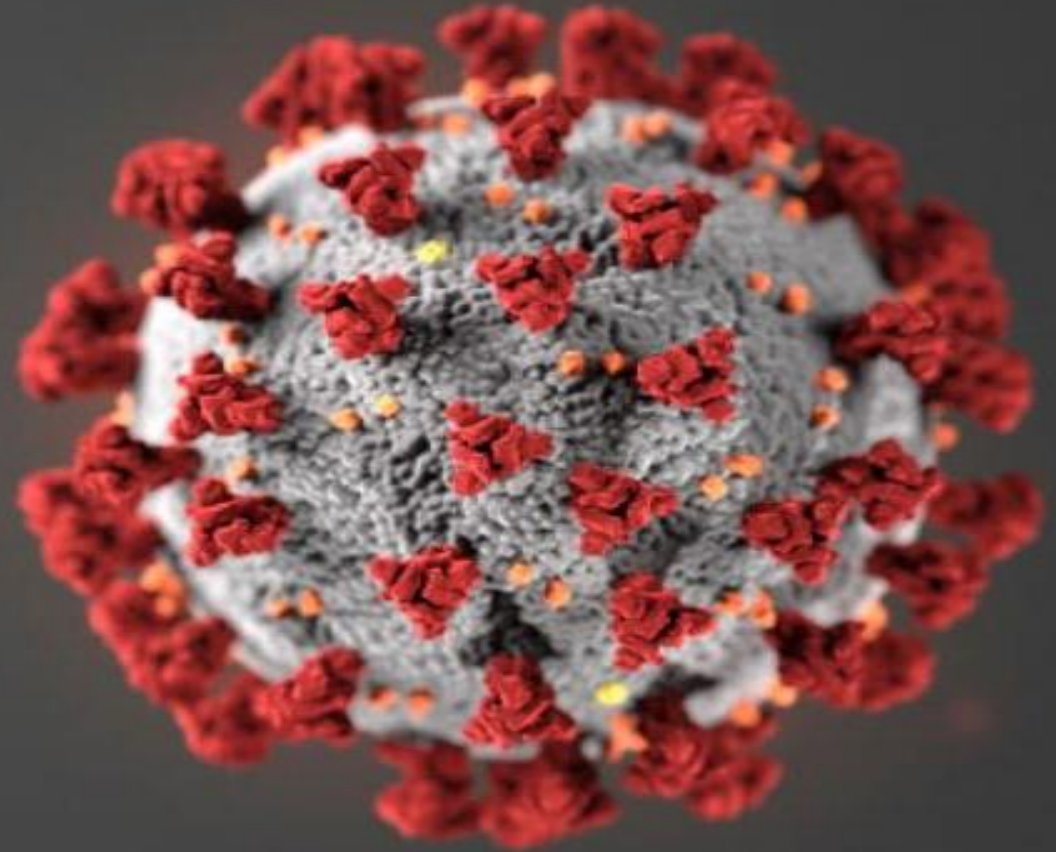
Janssen Preparation/Administration Key Points

- Use aseptic technique to prepare the injection
 - Vaccine does not contain a preservative
- DO NOT mix with a diluent
- Check expiration date of vaccine and diluent-Never use expired vaccine or diluent
 - This includes the Beyond Use Date for punctured vials
- Choose the correct equipment, including the correct needle size
- Use a new, sterile needle and syringe for each injection
- With vial upright, gently swirl the vaccine-Do NOT shake
 - If vial is shaken, contact the manufacturer
 - Gently swirl the vaccine before withdrawing subsequent doses

Janssen Preparation/Administration Key Points Cont.

- Ensure the needle and syringe are tightly together to prevent vaccine from leaking
- Withdraw 0.5 mL of vaccine into the syringe
 - Discard vial when there is not enough vaccine to obtain a complete dose
 - Do NOT combine residual vaccine from multiple vials to obtain a dose
 - Regardless of the type of syringe used, ensure the amount of vaccine in the syringe equals 0.5 mL
- Keep vaccine between 2°C and 8°C (36°F and 46°F) for up to 6 hours or at room temperature (up to 25°C or 77°F) for up to 2 hours. Discard if not used within this time
 - Note the date and time the vial was first punctured
- Administer vaccine immediately by intramuscular (IM) injection in deltoid muscle

COVID-19 Vaccine Administration Summary



Recap of Administration of COVID-19 Vaccines

- COVID-19 vaccines are administered intramuscularly as either a two-dose or one-dose series

Vaccine	Age Group	Dose Volume	Number Doses/Series	Interval Between Doses
Pfizer-BioNTech	16 years and older	0.3 mL	2	3 weeks (21 days)
Moderna	18 years and older	0.5 mL	2	1 month (28 days)
Janssen	18 years and older	0.5 mL	1	N/A

COVID-19 Vaccine

Quick Reference Guide for
Healthcare Professionals

	Pfizer	Moderna
Route	Intramuscular (IM) injection	Intramuscular (IM) injection
Site	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) Do NOT refreeze thawed vaccine.	Between: 2°C and 8°C (36°F and 46°F) or 8°C to 25°C (46°F to 77°F) Do NOT refreeze thawed vaccine.
Mixing Vaccine	Mix vaccine with 1.8 mL of 0.9% sodium chloride (preservative-free, normal saline)	Do NOT mix with any other vaccine
Contraindications/Precautions	<p>Contraindications</p> <ul style="list-style-type: none"> Severe allergic reaction (e.g., anaphylaxis) after a previous COVID-19 vaccine Immediate allergic reaction† of any severity to a previous component of the vaccine <p>Note: Persons who have a contraindication to an mRNA COVID-19 vaccine may be able to receive the Janssen COVID-19 vaccine (see footnote).² Persons who have a contraindication to Janssen COVID-19 vaccine (see footnote).²</p> <p>Precautions</p> <ul style="list-style-type: none"> History of an immediate allergic reaction† to any other intravenous, or subcutaneous vaccines or therapies) <ul style="list-style-type: none"> This includes people with a reaction to a vaccine or its components, one of which is a vaccine component, that elicited the immediate allergic reaction. People with a contraindication to mRNA COVID-19 vaccine and vice versa. (see footnote).² Moderate to severe acute illness <p>See Interim Clinical Considerations for Use of mRNA COVID-19 Vaccines www.cdc.gov/vaccines/covid-19/info-by-product/</p>	
Post-Vaccination Observation	<p>30 minutes: Persons with a history of an immediate allergic reaction to injectable therapy or a history of anaphylaxis (from any cause)</p> <p>15 minutes: All other persons</p>	
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, joint pain

¹For the purpose of this guidance, an immediate allergic reaction is defined as any hypersensitivity-related signs and symptoms (e.g., wheezing, stridor), or anaphylaxis that occur within 4 hours following exposure to a vaccine or its component.
²Consider consultation with an allergist-immunologist to help determine if the patient can safely receive vaccination after a consultation from the Clinical Immunization Safety Assessment COVID vax Project <https://www.cdc.gov/vaccines/covid-19/info-by-product/>. These individuals should only be done in an appropriate setting under the supervision of a healthcare provider experienced in the management of severe allergic reactions.
³People with a contraindication to mRNA COVID-19 vaccines (including due to a known PEG allergy) have previously received an mRNA COVID-19 vaccine dose but have a contraindication to a second dose should not receive a second dose.

COVID-19 Vaccine

Quick Reference Guide for
Healthcare Professionals

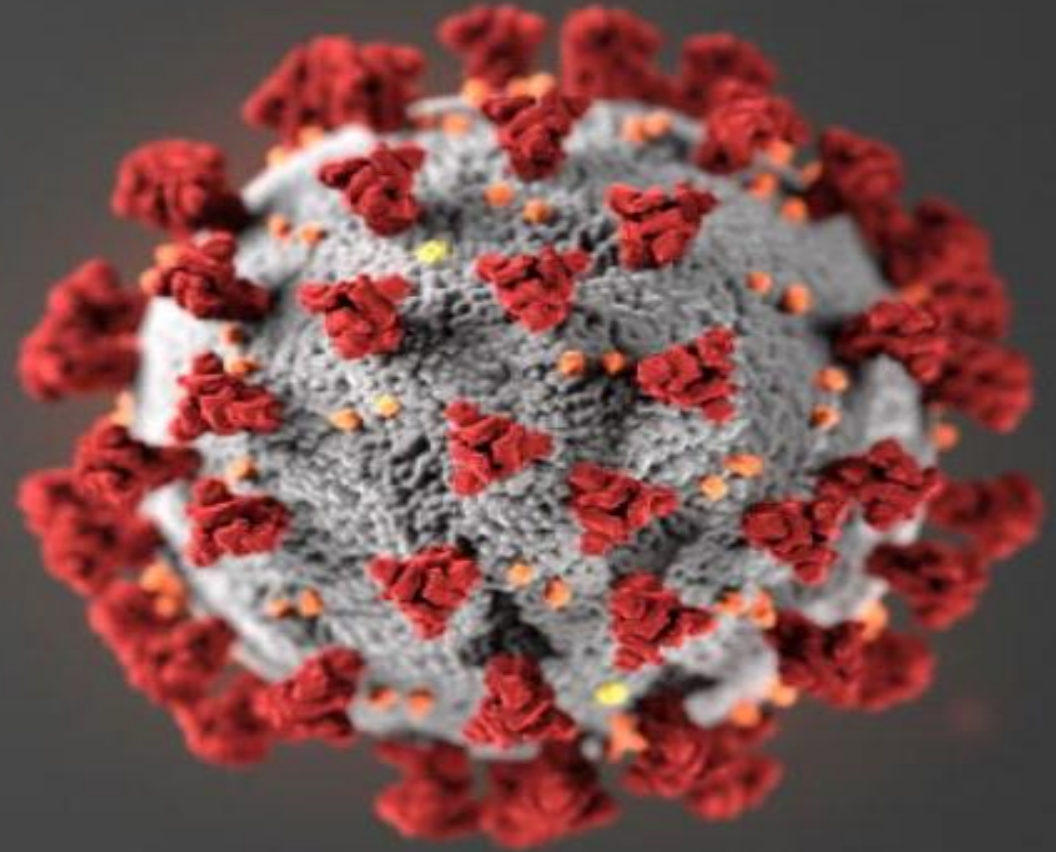


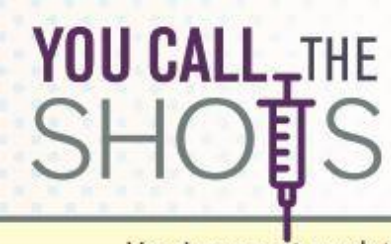
The table below provides basic information on the proper storage, preparation, and administration of the currently authorized COVID-19 vaccine products in the United States. For additional information and detailed clinical guidance go to the manufacturer's and CDC's webpages listed.

	Pfizer	Moderna	Janssen	
G E N E R A L	EUA	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/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.inj Medical information: 1-800-565-4008
S T O R A G E & H A N D L I N G	How supplied	Multidose vial: 6 doses	Multidose vial: 10 doses	Multidose vial: 5 doses
	Diluent	0.9% sodium chloride (preservative-free, normal saline) provided in the ancillary kit. Do NOT use other diluent.	None	None
	Storage Temperatures: Before Puncture	Between: -80°C and -60°C (-112°F and -76°F) until the expiration date 2°C and 8°C (36°F and 46°F) for up to 2 weeks	Between: -25°C and -15°C (-13°F and 5°F) until the expiration date 2°C and 8°C (36°F and 46°F) for up to 30 days	Between: 2°C and 8°C (36°F and 46°F) until the expiration date.
	Storage Temperatures: After puncture	Between: 2°C to 25°C (36°F to 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 6 hours. Discard any unused vaccine after 6 hours.	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	Between: -80°C and -60°C (-112°F and -76°F) 2°C and 8°C (36°F and 46°F) for up to 120 hours (5 days)	Between: -25°C and -15°C (-13°F and 5°F) until the expiration date 2°C and 8°C (36°F and 46°F) for up to 30 days	Between: 2°C and 8°C (36°F and 46°F) until the expiration date.
	After Puncture	Between: 2°C to 25°C (36°F to 77°F) for up to 6 hours.	Between: 2°C and 25°C (36°F and 77°F) for up to 6 hours.	Between: 2°C and 8°C (36°F and 46°F) for up to 6 hours.
Type of Vaccine	mRNA	mRNA	Viral vector	
Age Indications	16 years of age and older	18 years of age and older	18 years of age and older	
Schedule	2-doses, separated by 21 days. Both doses must be Pfizer-BioNTech vaccine	2 doses, separated by 28 days. Both doses should be Moderna vaccine	1 dose only	
Dosage	0.3 mL	0.5 mL	0.5 mL	

COVID-19 Quick Reference Guide

Administration Equipment and Anatomical Site





Vaccine Administration: Needle Gauge and Length

Vaccines must reach the desired tissue to provide an optimal immune response and reduce the likelihood of injection-site reactions. Needle selection should be based on the:

- Route
- Age
- Gender and weight for adults
(19 years and older)
- Injection site

The following table outlines recommended needle gauges and lengths. In addition, clinical judgment should be used when selecting needles to administer injectable vaccines.

Route	Age	Needle gauge and length	Injection site
Subcutaneous injection	All ages	23–25-gauge 5/8 inch (16 mm)	Thigh for infants younger than 12 months of age ¹ ; upper outer triceps area for persons 12 months of age and older
Intramuscular injection	Neonate, 28 days and younger	22–25-gauge 5/8 inch (16 mm ²)	Vastus lateralis muscle of anterolateral thigh
	Infants, 1–12 months	22–25-gauge 1 inch (25 mm)	Vastus lateralis muscle of anterolateral thigh
	Toddlers, 1–2 years	22–25-gauge 1–1.25 inches (25–32 mm)	Vastus lateralis muscle of anterolateral thigh ³
		22–25-gauge 5/8 ² –1 inch (16–25 mm)	Deltoid muscle of arm
	Children, 3–10 years	22–25-gauge 5/8 ² –1 inch (16–25 mm)	Deltoid muscle of arm ³
		22–25-gauge 1–1.25 inches (25–32 mm)	Vastus lateralis muscle of anterolateral thigh
	Children, 11–18 years	22–25-gauge 5/8 ² –1 inch (16–25 mm)	Deltoid muscle of arm ^{3,5}
	Adults, 19 years and older	22–25-gauge 1 inch (25 mm) ⁴ 1 inch (25 mm) 1–1.5 inches (25–38 mm) 1–1.5 inches (25–38 mm) 1.5 inches (38 mm) 1.5 inches (38 mm)	Deltoid muscle of arm ^{3,5}

¹ May be administered into the upper outer triceps area if necessary

² If the skin is stretched tightly and subcutaneous tissues are not bunched

³ Preferred site

⁴ Some experts recommend a 5/8-inch needle for men and women weighing less than 60 kg, if used, skin must be stretched tightly and subcutaneous tissues must not be bunched.

Needle Gauge and Length

<https://www.cdc.gov/vaccines/hcp/admin/downloads/vaccine-administration-needle-length.pdf>

Proper IM Injection Technique

- Administer in thickest, most central part of the muscle
- Use needle length based on patient's age and weight
- Insert the needle into the muscle at a 90° angle
- Administer alone (14 days before or after other vaccines)

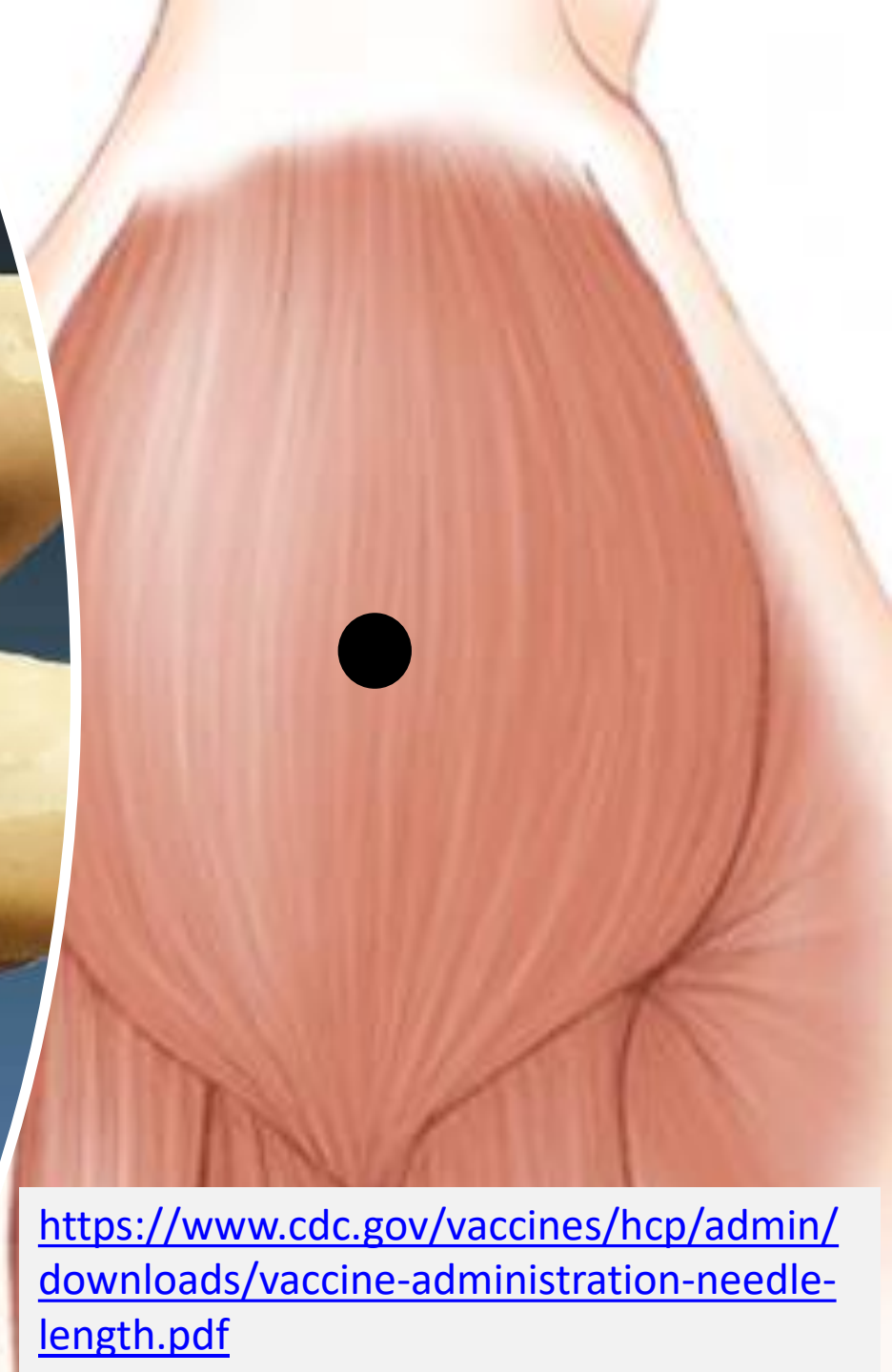
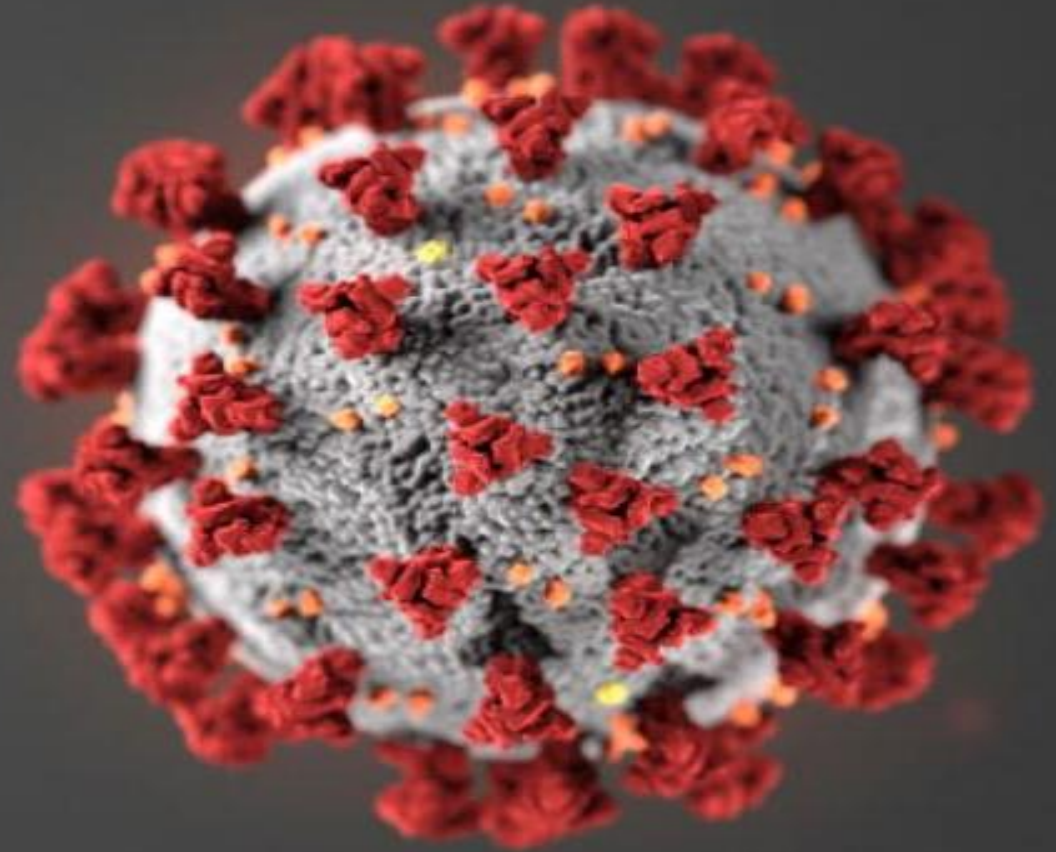


Image Courtesy of CDC

<https://www.cdc.gov/vaccines/hcp/admin/downloads/vaccine-administration-needle-length.pdf>

COVID-19 Vaccine Administration Errors and Deviations





Interim recommendations for COVID-19 vaccines

Vaccines	Type	Administration
mRNA vaccines only (Pfizer-BioNTech and Moderna)	Intervals	<ul style="list-style-type: none"> • S • t • f • t • e
	Mixed series	<ul style="list-style-type: none"> • I • p • d
Pfizer-BioNTech only	Diluent	<ul style="list-style-type: none"> • C • S • N • t • u
		<ul style="list-style-type: none"> • I • w
		<ul style="list-style-type: none"> • I • w

Pfizer-BioNTech and Moderna vaccines only:
 *If the dose given in error is the first dose, a second dose of this vaccine is not recommended. If the dose given in error is the second dose, the series is complete, and you should not administer the second dose until the person has extended to include additional age groups, even if this #if the dose given in error is the first dose, the second dose from the date of receipt of the valid dose (not the date of administration error).
 †If the administration error resulted in a higher-than-authorized dose, you should not administer the second dose until the person has extended to include additional age groups, even if this #if the dose given in error is the first dose, the second dose from the date of receipt of the valid dose (not the date of administration error).
 ‡However, if local or systemic side effects following vaccination reactions, or are ongoing at the time of the second dose.
 §Although CDC provides considerations for a mixed series reporting (as a mixed series is not authorized under the

A vaccine administration error is any preventable event that may cause or lead to inappropriate use of vaccine or patient harm. This table provides resources for preventing and reporting COVID-19 vaccine administration errors, as well as actions to take after an error has occurred. For completeness, it includes additional scenarios that deviate from CDC recommendations for vaccine intervals but are not considered administration errors.

For all vaccine administration errors:

- Inform the recipient of the vaccine administration error.
- Providers are required to report all COVID-19 vaccine administration errors—even those not associated with an adverse event—to [VAERS](#).
- Consult with the [state immunization program](#) and/or [immunization information system \(IIS\)](#) to determine how the dose should be entered into the IIS, both as an administered dose and to account for inventory.
- Determine how the error occurred and implement strategies to prevent it from happening again.

Interim recommendations for COVID-19 vaccine administration errors and deviations

Vaccines	Type	Administration error/deviation	Interim recommendation
All currently authorized vaccines (Pfizer-BioNTech, Moderna, and Janssen COVID-19 vaccines) inactive ingredients	Site/route	• Incorrect site (i.e., site other than the deltoid muscle [preferred site] or anterolateral thigh [alternate site])	• Do not repeat dose.* Inform the recipient of the potential for local and systemic adverse events.
		• Incorrect route (e.g., subcutaneous)	• Do not repeat dose.* Inform the recipient of the potential for local and systemic adverse events.
	Age	• Unauthorized age group	• If received dose at age less than 16 years, do not give any additional dose at this time.†
			• If age 16 to 17 years and a vaccine other than Pfizer-BioNTech was inadvertently administered: <ul style="list-style-type: none"> ◦ If Moderna vaccine administered as the first dose, may administer Moderna vaccine as the second dose (as off-label use, because Moderna vaccine is not authorized in this age group). ◦ If Janssen vaccine administered, do not repeat dose with Pfizer-BioNTech vaccine.
	Dosage	• Higher-than-authorized dose volume administered	• Do not repeat dose.*†
		• Lower-than-authorized dose volume administered (e.g., leaked out, equipment failure, recipient pulled away)	• If more than half of the dose was administered, do not repeat dose.* • If less than half of the dose was administered or the proportion of the dose cannot be estimated, administer the authorized dose immediately (no minimum interval) in the opposite arm.‡
Storage and handling	• Dose administered after improper storage and handling (e.g., temperature excursion, more than allowed time after first vial puncture)	• Contact the manufacturer for guidance. If the manufacturer provides information supporting that the dose should be repeated, the repeated dose may be given immediately (no minimum interval) in the opposite arm.	
	• Dose administered past the expiration/beyond-use date	• Contact the manufacturer for guidance. If the manufacturer provides information supporting that the dose should be repeated, the repeated dose may be given immediately (no minimum interval) in the opposite arm.	
Coadministration	• Dose administered within 14 days before or after another (i.e., non-COVID-19) vaccine	• Do not repeat COVID-19 vaccine* or other vaccine(s) doses. This deviation from CDC guidance does not require VAERS reporting.	
	• Dose administered within 90 days of monoclonal antibodies or convalescent plasma for	• Do not repeat COVID-19 vaccine dose. If person has already received one mRNA COVID-19 vaccine dose, defer administration of second dose for 90 days.	

Resource for preventing and reporting COVID-19 vaccine administration errors, as well as a simple table outlining actions to take after an error has occurred. Errors addressed include the following:

- Incorrect route or site
- Incorrect age
- Incorrect dosing interval
- Incorrect dose (high or low)
- Administration after improper storage conditions
- Administration after the expiration/beyond use date
- Diluent errors (wrong diluent, too much or too little) with the Pfizer-BioNTech vaccine

<https://www.cdc.gov/vaccines/covid-19/downloads/covid19-vaccine-errors-deviations.pdf>

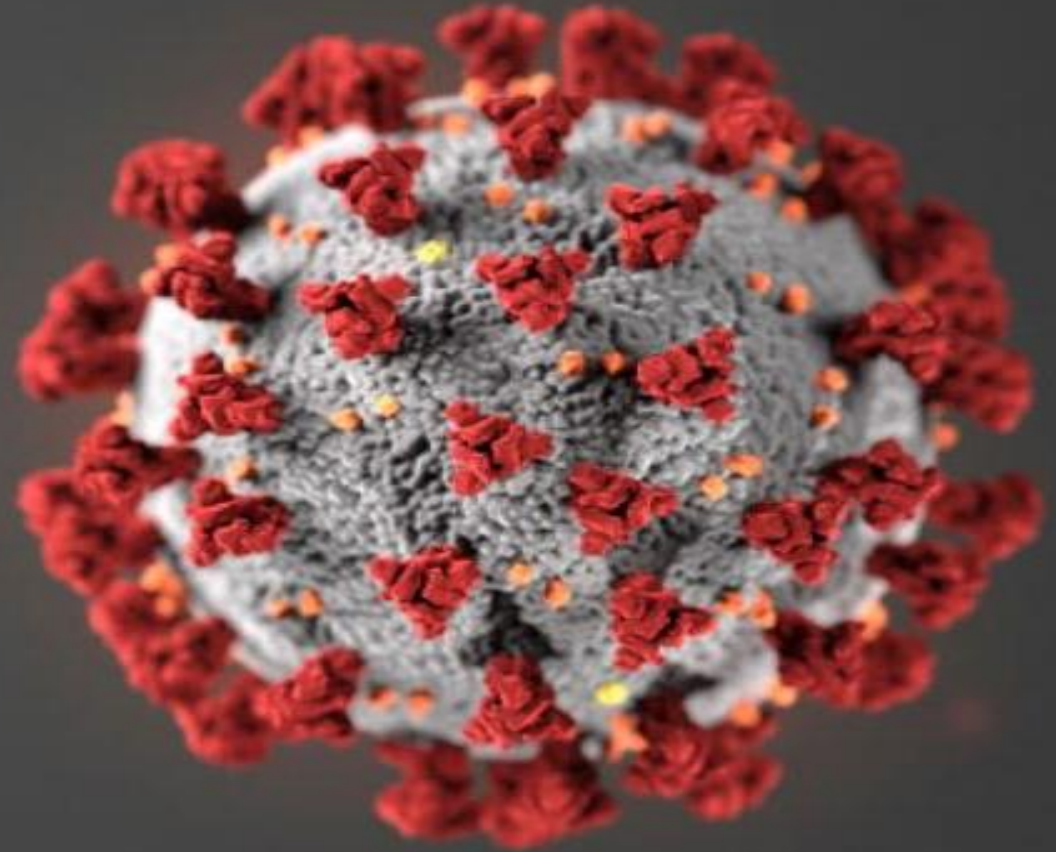
- Do Not Repeat the Dose
- If the dose given in error is the first dose, a second dose should be administered at the recommended interval (21 days [Pfizer-BioNTech] or 28 days [Moderna]).
- If this dose is the second dose, the series is complete, and no additional doses are needed
- If the administration error resulted in a higher-than-authorized vaccine dose, in general the second dose may still be administered at the recommended interval. However, if local or systemic side effects following vaccination are clinically concerning (outside of the expected side effect profile), lead to serious adverse reactions, or are ongoing at the time of the second dose, the decision to administer the second dose may be assessed on a case-by-case basis
- Report to VAERS at <https://vaers.hhs.gov/>

What happens
when someone
administers
1.0mL of
Moderna
vaccine instead
of 0.5mL?

- If more than half of the dose was administered, do not repeat dose
 - If the dose given in error is the first dose, a second dose should be administered at the recommended interval (21 days [Pfizer-BioNTech] or 28 days [Moderna]). If this dose is the second dose, the series is complete, and no additional doses are needed
- If less than half of the dose was administered or the proportion of the dose cannot be estimated, administer the authorized dose immediately (no minimum interval)
 - If the dose given in error is the first dose, the second dose should be administered at the recommended interval (21 days [Pfizer-BioNTech] or 28 days [Moderna]) from the date of receipt of the valid dose (not the date of receipt of the erroneous dose) in the opposite arm
- Report to VAERS at <https://vaers.hhs.gov/>

When administering Pfizer, a significant amount of vaccine leaked out. What should we do?

Additional COVID-19 Vaccine Administration Resources





Note: The materials listed on this page might be more current than vaccine administration information in previously published CDC documents, including the 13th edition of *Epidemiology and Prevention of Vaccine-Preventable Diseases* (the [Pink Book](#)). Always follow the most up-to-date guidelines in the [Vaccine Storage and Handling Toolkit](#) or more recently dated materials.

Web-based Training Courses

[Vaccine Administration e-Learn](#)

A self-paced vaccine administration course that provides comprehensive training using videos, job aids, and other resources.

[You Call the Shots](#)

An interactive, web-based immunization training course that includes the latest guidelines and recommendations in vaccine practice.

Videos

Title: [Comfort and Restraint Techniques](#)

Short Description: This training demonstrates comfort and restraint techniques. Determine the best position for the patient based on comfort, age, activity level, administration site, and safety. Instruct the parent on how to help the infant or child stay still so you can administer the vaccine(s) safely.

Title: [Assemble a Manufacturer-filled Syringe](#)

Short Description: This training addresses how to assemble a manufacturer-filled syringe, available for a variety of vaccines. CDC recommends that providers only prepare vaccines just prior to administration. Always prepare vaccines in a designated area that is not near any area where potentially contaminated items are placed.

Title: [Single-Dose Vial](#)

Short Description: This training addresses how to prepare a single-dose vial and should be administered one time per vaccine just prior to administration.

On This Page

[Web-based Training Courses](#)

[Job Aids](#)

[References](#)

[Web Button](#)

CDC's Training Materials

- Web-based training courses
 - Vaccine Administration e-Learn
 - You Call the Shots Modules
- Videos
 - Comfort and Restraint Technique
 - Assemble a Manufacturer-filled Syringe
 - Single-Dose Vial
 - Subcutaneous Injection
 - Intramuscular Injection
- Job Aids
 - Vaccine Administration: Needle Gauge and Length
 - Vaccine Administration: Intramuscular (different age groups)
 - Vaccine Administration: Preventing Vaccine Administration Errors
- References

<https://www.cdc.gov/vaccines/hcp/admin/resource-library.html>

Thank You!

Next “Noontime
Knowledge” Update: April
22, 2021 at 12:00p.m.

Topic: TBD

Please watch your email for
an updated link and topic!

www.michigan.gov/COVIDvaccine → Provider Guidance and Education

