COVID-19 Vaccine Transport Guidance

Updated November 9, 2022

In order to reduce vaccine wastage and meet vaccine needs across the state, COVID-19 vaccine may be transported between two providers enrolled in the CDC COVID-19 Vaccination Program using the guidance below.

Items required for transporting COVID-19 vaccine:

1) Portable vaccine refrigerator and/or freezer

- If a portable vaccine unit is not available, thermal shippers (Pfizer vaccine only - using a medium ULT shipper), and qualified containers and packouts may be used. Information regarding qualified containers and packouts may be found in the CDC Storage and Handling Toolkit linked below. **Single use ULT shippers may not be used for vaccine transport. Pediatric and 12+ gray cap formulation Pfizer vaccine is supplied in a single use ULT shipper.**
- Manufacturer-supplied packaging may also be used in accordance with the directions in the manufacturer's labeling.

2) Digital Data Logger (DDL) Thermometer

- Must be placed with the vaccine in the transport container**.**

3) Sufficient coolant (phase change materials or conditioned water bottles) and insulating materials (bubble wrap and corrugated cardboard)

- If using a qualified packout with a hard-sided insulated container or Styrofoam™ cooler, ensure the coolant/phase change material being used is appropriate for the desired storage conditions (i.e. frozen or refrigerated). When transporting under refrigerated conditions, conditioned water bottles can be used as an alternative as noted in CDC's Emergency Transport Guidance document. Ensure the packout can maintain the appropriate temperature prior to placing vaccines inside for transport.

4) Adequate ancillary supplies for preparation and administration

- Include all ancillary supplies (and diluent, if applicable) to correspond with the number of doses being transported.

Temperature Monitoring

Using the required DDL, the **time** and **temperature (min/max)** should be recorded at each of the below times during the transport:

Start of transport → Upon opening the storage container → When transport is completed

Important Reminders:

- The total time for transport should be minimized to reduce potential risk for a temperature excursion.
- Vaccine vials may be transported more than once.
- When transport is complete, vaccine should **immediately** be placed in an appropriate storage unit.
- CDC recommends transporting vaccine in vials. However, there may be instances when the only option is to transport pre-drawn vaccine in a syringe. The USP COVID-19 Vaccine Toolkit: Operational Considerations for Healthcare Practitioners includes guidance for transporting pre-drawn vaccine in syringes. Please note, Pediatric Pfizer should **not** be transported in pre-drawn syringes.
- It is not recommended to transfer pre-drawn syringes or punctured vials outside of your provider organization.
- When transporting mRNA vaccines (Pfizer-BioNTech and Moderna), please follow these best practices:
  - Protect vaccines as much as possible from drops, shocks, and vibration.
  - To minimize movement, transport vials in the carton whenever possible.
  - If individual vials must be transported:
    - Place vials with padding material like bubble wrap or similar materials to prevent breaking.
    - Secure storage containers during transport.
    - Keep vaccine vials upright whenever possible.

Additional Resources:

- CDC Storage and Handling Toolkit
- CDC Refrigerator Transport Temperature Log
- USP COVID-19 Vaccine Handling Toolkit
- CDC Emergency Transport Guidance
- Pfizer-BioNTech COVID-19 Vaccine (12+ formulation): Transporting Vaccine
- Pfizer-BioNTech COVID-19 Vaccine (5 through 11 formulation): Transporting Vaccine
- Moderna COVID-19 Vaccine: Transporting Vaccine
- Johnson & Johnson (Janssen) COVID-19 Vaccine: Transporting Vaccine

Pfizer-BioNTech COVID-19 Vaccine (12+ formulation– purple cap)

Vaccine Temperature Ranges:

- Ultra-cold (ULC): -90°C to -60°C (-130°F to -76°F)
- Frozen: -25°C to -15°C (-13°F to 5°F) for up to 2 weeks
- Refrigerated: 2°C to 8°C (36°F to 46°F) for up to one month (31 days)

Vaccine Storage Unit(s):

- Ultra-cold freezer until the expiration date
- Thermal shipping container (for up to 30 days, following manufacturer's guidance and dry ice recharges)
- Freezer (for up to two weeks)
- Refrigerator (for up to 31 days)

Vaccine Transport:

Ultra-cold transport (-90°C to -60°C; -130°F to -76°F): **Only full trays/cartons of vaccine may be transported at ultra-cold temperatures.**

- ULC vaccine may be transported using a medium ULT thermal shipping containers with dry ice or in a portable ultra-cold freezer.

Frozen transport (-25°C to -15°C; -13°F to 5°F): If local redistribution is needed and full cartons containing vials cannot be transported at ULC temperatures, vials may be transported at -25°C to -15°C (-13°F to 5°F).

- Any hours used for storage or transport at -25°C to -15°C count against the 2-week limit for storage at -25°C to -15°C.
- **Frozen vials transported** at -25°C to -15°C **may be returned one time** to the recommended storage condition of -90°C to -60°C (-130°F to -76°F).

Refrigerated transport (2°C to 8°C; 36°F to 46°F): **Individual vials or partially filled trays must be transported at refrigerated temperatures.**

- Once vaccine vials are removed from the tray, the thawing process has begun, and the vaccines require refrigerated transport. **Once vials have been thawed, they cannot be refrozen.**
- **Unpunctured** vials can be transported for up to 12 hours.
- **Punctured** vials can be transported at refrigerated temperatures. Once punctured, the refrigerated vials must be used within 6 hours. Transport time counts as part of the 6-hour time limit.
- Vaccines may be stored at refrigerated temperatures for up to 31 days.
    - Any time used for transport counts against the 31-day limit.

Pfizer-BioNTech COVID-19 Vaccine (5 to 11 years of age – orange cap AND 12+ – gray cap)

Vaccine Temperature Ranges:

- Ultra-cold (ULC): -90°C to -60°C (-130°F to -76°F)
- Refrigerated: 2°C to 8°C (36°F to 46°F) for up to 10 weeks

Vaccine Storage Unit(s):

- Ultra-cold freezer until the expiration date (9 months after manufactured date)
- Refrigerator (for up to 10 weeks)

Vaccine Transport:

Ultra-cold transport (-90°C to -60°C; -130°F to -76°F): **Only full trays/cartons may be transported at ultra-cold temperatures.**

- ULC vaccine may be transported in a portable ultra-cold freezer OR container/packout qualified to maintain the recommended temperatures.
- Only **unpunctured** vials can be transported.

Refrigerated transport (2°C to 8°C; 36°F to 46°F): **Individual vials or full cartons may be transported at refrigerated temperatures.**

- Once vaccine vials are removed from the tray, the thawing process has begun, and the vaccines require refrigerated transport. **Once vials have been thawed, they cannot be refrozen.**
- Only **unpunctured** vials can be transported.
- Vaccines may be stored at refrigerated temperatures for up to 10 weeks.

Moderna COVID-19 Vaccine

Vaccine Temperature Ranges:

- Frozen: -50°C to -15°C (-58°F to 5°F)
- Refrigerated: 2°C to 8°C (36°F to 46°F) for up to 30 days

Vaccine Storage Unit(s):

- Freezer until the expiration date
- Refrigerator (for up to 30 days)

Vaccine Transport:

Frozen transport (-50°C to -15°C; -58°F to 5°F): **Preferred method of transport.**

- Only unpunctured vials may be transported frozen.
- Do not freeze thawed vaccine.

Refrigerated transport (2°C to 8°C; 36°F to 46°F):

- Vaccines that will be transported in a refrigerated state should begin transport in a frozen state if possible.
- Take care to ensure vaccine does not refreeze during transport.
- **Unpunctured** vials may be transported for up to 12 hours. This time is cumulative, including the amount of time to and from clinics. Transport time is also included in the 30-day time frame.
- **Punctured** vials can be transported at refrigerated temperatures. Once punctured, the vials must be refrigerated and used within 12 hours. Time used for transport counts as part of the 12-hour time limit.

Johnson & Johnson (Janssen) COVID-19 Vaccine

Vaccine Temperature Ranges:

- Refrigerated: 2°C to 8°C (36°F to 46°F)

Vaccine Storage Unit(s):

- Refrigerator until the expiration date

Vaccine Transport:

Refrigerated transport (2°C to 8°C; 36°F to 46°F):

- Take care to ensure vaccine does not freeze during transport.
- CDC recommends the total time for transport alone or transport plus clinic workday should be a maximum of 8 hours.
- **Punctured** vials can be transported at refrigerated temperatures. Once punctured, the refrigerated vials must be used within 6 hours. Transport time counts as part of the 6-hour time limit.