

# New York State COVID-19 Vaccine Program

## Guidance for Vaccine Transport

**Vaccine transport** is the process by which vaccine is physically moved from one location to another. **Vaccine redistribution** is the process by which vaccine is physically moved and possession of the vaccine is transferred from one provider to another. Every time vaccine is moved, the cold chain is put at risk; therefore, **transports and redistributions should be limited to the extent possible.**

- **All vaccine transports and redistributions must be documented using the COVID-19 Vaccine Transport Tracking Sheet on page 7 of this packet.** Completed tracking sheets must be submitted to [covid19vaccine@health.ny.gov](mailto:covid19vaccine@health.ny.gov) within 24 hours of transport or redistribution. Copies of the completed COVID-19 Vaccine Transport Tracking Sheet must be saved by both the releasing and receiving provider. Please see page 10 for a sample of a completed COVID-19 Vaccine Transport Tracking Sheet. Providers must follow all NYS Department of Health guidance and directives and meet all vaccine storage and handling requirements.
- **If vaccine is being redistributed,** the provider releasing the vaccine and the provider receiving the vaccine must both be enrolled in the NYS COVID-19 Vaccine Program. The provider releasing the vaccine must have a signed CDC COVID Redistribution Agreement submitted and must notify the NYS COVID-19 Vaccine Program of the redistribution **before** it takes place. See [New York State COVID-19 Vaccination Program Redistribution](#) for more information.

### Transport Equipment

- **Portable vaccine refrigerator and freezer units are considered the best option for vaccine transport.** These units are preferred because they use a power source and built-in thermostat to maintain the temperature and therefore do not require use of a packout (cooling and/or insulating materials). Portable vaccine refrigerator/freezer units are acceptable for both emergency and non-emergency transport.
- **Qualified containers and packouts are the “next best” option for vaccine transport.** Qualified containers do not have a power source or built-in thermostat but have undergone laboratory testing and are known to maintain appropriate temperatures when used in combination with a qualified packout. Qualified containers and packouts are acceptable for both emergency and non-emergency transport.
- **For emergency or short-term (up to 2 hours) transport only, certain hard-sided insulated coolers and Styrofoam containers may be used in combination with CDC’s water bottle transport system** (See pages 4-5). Such coolers/containers must have walls that are at least 2 inches thick. Manufacturer’s original shipping containers are **sometimes** acceptable; see page 3 for more information. Soft-sided or collapsible coolers are never acceptable.
- **Use of a digital data logger (DDL) to monitor temperatures during transport is REQUIRED.** Condition the buffered probe in the refrigerator/freezer/ULT freezer for at least 5 hours prior to transport. **When packing the DDL for transport:**
  - Remember to reset the “min/max” temperature display.
  - Place buffered probe as close as possible to vaccines in the transport container.
  - Do not place buffered probe directly next to ice packs or other coolants.
  - Attach temperature display to the outer lid of the transport container whenever possible.
  - Many DDLs cannot read ultra-low temperatures; check manufacturer’s specifications for your device.

## General Guidance for Vaccine Transport

- Transport only full, unpunctured vials.
- Vials should be placed upright in the transport container (not upside down or on their side).
- Always transport equal amounts of vaccine, diluent (if applicable), and ancillary supplies (CDC vaccination record cards, needles and syringes).
- To the extent possible, **avoid:** leaving the transport container in direct sunlight; leaving the transport container unattended; opening the transport container.
- If using a personal or company vehicle to transport vaccine, bring vehicle to a comfortable temperature before placing transport container inside. Never place transport container in the trunk.
- Protect vaccine from drops, shocks, and vibration. Secure transport container in vehicle. If transporting individual vials or partial trays, use dunnage (padding material such as bubble wrap) to hold vials in place within the transport container.
- Plan route to minimize transport time. In general, transport time or transport time plus clinic workday should be 8 hours maximum. Per manufacturer guidance, Moderna and Pfizer (12+) vaccines can be transported refrigerated for up to 12 hours.
- Do not place vials that have recently been removed from ULT or frozen storage in the same transport container as thawed (refrigerated or room temperature) vials, as this may expose the thawed vials to out-of-range temperatures.

## Refrigerated Transport

- Acceptable for Janssen, Moderna, Pfizer-purple cap (12+), Pfizer-gray cap (12+), and Pfizer-orange cap (5-11).
- Refrigerated temperature range is 2°C to 8°C (36°F to 46°F).
- Take care not to freeze vaccine during transport. Do not use frozen gel packs or coolant packs from original vaccine shipments. If using phase change materials (PCMs), condition to 4°C to 5°C (39°F to 41°F) and follow manufacturer's instructions carefully. If using the emergency water bottle transport system described on pages 5-6, the water bottles must be conditioned (not frozen solid).

Include hours used for transport when calculating the beyond use date (BUD) for vaccines. Beyond use dates may shorten an expiration date, never exceed it. Vaccine must be used by the expiration date or BUD, whichever comes FIRST. See the BUD Calculation Flow Chart and guidance on pages 8-9 for more information and sample BUD tracking labels.

## Frozen Transport

- Acceptable for Moderna that has been stored in a freezer and Pfizer-purple cap (12+) that has been stored in ULT or standard freezer.
- The frozen temperature range for Moderna vaccine is -50°C to -15°C (-58°F to 5°F).
- The frozen temperature range for Pfizer-purple cap is -25°C to -15°C (-13°F to 5°F).
- Never use dry ice for frozen transport.
- If using the emergency water bottle transport system described on pages 5-6, the water bottles must be frozen solid (not conditioned).
- If vaccine begins to thaw in transit, store vaccine in a refrigerator at the receiving location; never refreeze thawed vaccine.
- Count hours used for transport against total allowable frozen storage time.

## Ultra-Low Temperature (ULT) Transport

- Acceptable for **full trays/packages only** of Pfizer-purple cap (12+), Pfizer-gray cap (12+), and Pfizer-orange cap (5-11). Loose vials should not be transported at ultra-low temperatures.
- Ultra-low temperature range is -90 °C to -60 °C (-130 °F to -76 °F).
- Use a portable ULT freezer that can maintain a temperature of -90° C and a DDL with an air probe or probe specifically designed for ULT environments. The manufacturer’s original shipping container with dry ice and a DDL or Controlant TMD is **sometimes** acceptable for ULT transport; see page 3 for more information.
- Never refreeze thawed vaccine.

## Additional Considerations for Each Vaccine Product

Carefully review the most recent CDC Storage and Handling Summary and all manufacturer documentation for each vaccine product. Some key information is provided here.

- **Janssen (Johnson & Johnson)**
  - Janssen vaccine must always be transported and stored at refrigerated temperatures. Never freeze Janssen vaccine.
- **Moderna**
  - Once Moderna vaccine is removed from frozen storage, it must be held at refrigerated temperatures and used within 30 days. If the expiration date is more than 30 days away, **label the box/vials with the 30-day beyond use date, including time removed from freezer**. For example, if vials were removed from freezer at 12pm on 4/1/2022, label the box/vials to be used by 5/1/2022 at 12pm. If the expiration date was 4/30/2022 you would need to use the vaccine by 4/30/2022 because that is earlier than the 30-day BUD. Never return thawed vaccine to frozen storage.
  - For vials of Moderna vaccine that have **not** been thawed previously, frozen transport is preferred; if refrigerated transport is the only option, vaccine should begin transport in a frozen state and thaw while in transit.
  - Never transport Moderna vaccine on dry ice or below -50°C (-58°F).
- **Pfizer-Purple Cap (12+)**
  - Once Pfizer-purple cap vaccine is removed from ULT storage, it must be used within 6 weeks (14 days at standard freezer temperatures plus 31 days at refrigerated temperatures). Never return thawed vaccine to frozen or ULT storage. Pfizer-purple cap transported or stored frozen may be returned to ULT storage one time only. If you are unsure how to calculate beyond use date for Pfizer purple cap vaccine removed from ULT storage, please email [COVID19Vaccine@health.ny.gov](mailto:COVID19Vaccine@health.ny.gov) prior to transport.
  - The original thermal shipping container used for orders of **1170 doses (195 vials)** of Pfizer-purple cap **may** be used to store or transport vaccine if dry ice is refreshed according to manufacturer’s instructions; these containers are labeled Medium ULT. The original thermal shipping container used for orders of **450 doses (75 vials)** of Pfizer-purple cap **may not** be used to store or transport vaccine under any circumstances; these containers are labeled Single Use ULT and must be discarded after initial vaccine delivery.
  - Transport only full 195-count of Pfizer-purple cap at ultra-low temperatures. Trays must be returned to ULT storage within 5 minutes of unpacking from the transport container. Do not open the trays or remove any vials until ready to thaw. Vaccine must remain in ULT storage for at least 2 hours before being moved between ULT environments again.

- Frozen Pfizer-purple cap must be considered thawed if exposed to temperatures above -15°C (5°F) for more than: 30 seconds for individual vial(s); 1 minute for opened 195-count or 25-count trays; 3 minutes for unopened 195-count or 25-count trays.
- Thawed Pfizer-purple cap must be considered refrozen if exposed to temperatures below -3°C (26°F) for any length of time.

➤ **Pfizer-Gray Cap (12+) and Pfizer-Orange Cap (5-11)**

- Pfizer-gray cap and Pfizer-orange cap vaccine must be transported and stored at ultra-low or refrigerated temperatures; never store or transport Pfizer-gray cap or Pfizer-orange cap at standard freezer temperatures.
- Once removed from ULT storage, Pfizer-gray cap and Pfizer-orange cap must be held at refrigerated temperatures and used within 10 weeks. If the expiration date is more than 10 weeks away, **label the box/vials with 10-week beyond use date, including time removed from ULT**. For example, if vials are removed from ULT at 2:30 pm on 3/1/2022, label the box/vials to be used by 5/10/2022 at 2:30 pm. If the expiration date is 4/30/2022 the vials need to be used by 4/30/2022 because that is earlier than the 10-week BUD. Never return thawed vaccine to ULT storage.
- If transferring Pfizer-gray cap or Pfizer-orange cap between ULT environments, **unopened** trays may be at room temperature for a maximum of 5 minutes.
- Never transport or store Pfizer gray-cap or Pfizer-orange cap in the manufacturer’s original thermal shipping container. This container is designed for one-time use only and must be discarded after initial vaccine delivery.

If temperature goes above or below the appropriate range during transport, report as soon as vaccine arrives at the receiving location by emailing [vaccinetempexcursion@health.ny.gov](mailto:vaccinetempexcursion@health.ny.gov). Label the vaccine “Do Not Use” until a response on viability has been received.

## Resources

### CDC Packing Vaccines for Transport During Emergencies

<http://www.cdc.gov/vaccines/recs/storage/downloads/emergency-transport.pdf>

### CDC Vaccine Storage and Handling Toolkit (pages 21-24, 49-64)

<https://www.cdc.gov/vaccines/hcp/admin/storage/toolkit/storage-handling-toolkit.pdf>

### CDC COVID-19 Vaccine Quick Reference

[https://www.cdc.gov/vaccines/covid-19/downloads/covid19-vaccine-quick-reference-guide-2pages.pdf?ACSTrackingID=USCDC\\_2120-DM53231&ACSTrackingLabel=New%20Reference%20Tools%20Are%20Available%21&deliveryName=USCDC\\_2120-DM53231](https://www.cdc.gov/vaccines/covid-19/downloads/covid19-vaccine-quick-reference-guide-2pages.pdf?ACSTrackingID=USCDC_2120-DM53231&ACSTrackingLabel=New%20Reference%20Tools%20Are%20Available%21&deliveryName=USCDC_2120-DM53231)

# Packing Vaccines for Transport during Emergencies

## Be ready BEFORE the emergency

Equipment failures, power outages, natural disasters—these and other emergency situations can compromise vaccine storage conditions and damage your vaccine supply. **It's critical to have an up-to-date emergency plan with steps you should take to protect your vaccine.** In any emergency event, activate your emergency plan immediately. Ideally, vaccine should be transported using a portable vaccine refrigerator or qualified pack-out. However, if these options are not available, you can follow the emergency packing procedures for refrigerated vaccines below:

## 1 Gather the Supplies



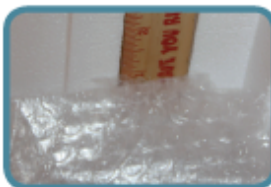
### Hard-sided coolers or Styrofoam™ vaccine shipping containers

- Coolers should be large enough for your location's typical supply of refrigerated vaccines.
- Can use original shipping boxes from manufacturers if available.
- Do NOT use soft-sided collapsible coolers.



### Conditioned frozen water bottles

- Use 16.9 oz. bottles for medium/large coolers or 8 oz. bottles for small coolers (enough for 2 layers inside cooler).
- Do NOT reuse coolant packs from original vaccine shipping container, as they increase risk of freezing vaccines.
- Freeze water bottles (can help regulate the temperature in your freezer).
- Before use, you must condition the frozen water bottles. Put them in a sink filled with several inches of cool or lukewarm water until you see a layer of water forming near the surface of bottle. The bottle is properly conditioned if ice block inside spins freely when rotated in your hand (this normally takes less than 5 minutes).



### Insulating material — You will need two of each layer

- **Insulating cushioning material** - Bubble wrap, packing foam, or Styrofoam™ for a layer above and below the vaccines, at least 1 in thick. Make sure it covers the cardboard completely. Do NOT use packing peanuts or other loose material that might shift during transport.
- **Corrugated cardboard** - Two pieces cut to fit interior dimensions of cooler(s) to be placed between insulating cushioning material and conditioned frozen water bottles.



**Temperature monitoring device** - Digital data logger (DDL) with buffered probe. Accuracy of  $\pm 1^{\circ}\text{F}$  ( $\pm 0.5^{\circ}\text{C}$ ) with a current and valid certificate of calibration testing. Pre-chill buffered probe for at least 5 hours in refrigerator. Temperature monitoring device currently stored in refrigerator can be used, as long as there is a device to measure temperatures for any remaining vaccines.

### Why do you need cardboard, bubble wrap, and conditioned frozen water bottles?

Conditioned frozen water bottles and corrugated cardboard used along with one inch of Insulating cushioning material such as bubble wrap keeps refrigerated vaccines at the right temperature and prevents them from freezing. **Reusing vaccine coolant packs from original vaccine shipping containers can freeze and damage refrigerated vaccines.**



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Visit [www.cdc.gov/vaccines/SandH](http://www.cdc.gov/vaccines/SandH)  
for more information, or your state  
health department.

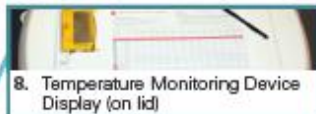
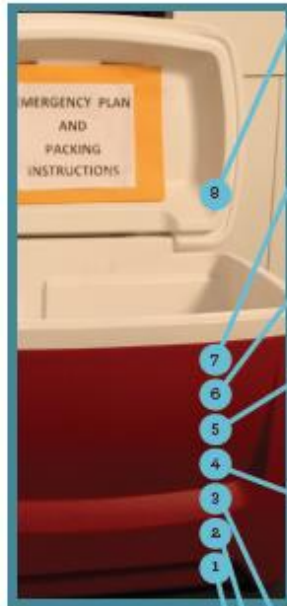
CS249275-1 August 2015

# Packing Vaccines for Transport during Emergencies

## 2 Pack for Transport

### Conditioning frozen water bottles (this normally takes less than 5 minutes)

- Put frozen water bottles in sink filled with several inches of cool or lukewarm water or under running tap water until you see a layer of water forming near surface of bottle.
- The bottle is properly conditioned if ice block inside spins freely when rotated in your hand.
- If ice "sticks," put bottle back in water for another minute.
- Dry each bottle.
- Line the bottom and top of cooler with a single layer of conditioned water bottles.
- Do NOT reuse coolant packs from original vaccine shipping container.



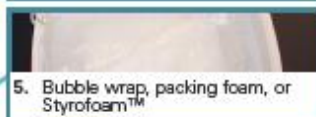
8. Temperature Monitoring Device Display (on lid)



7. Conditioned Water Bottles



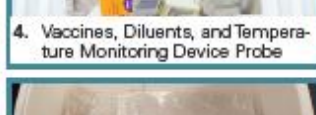
6. Cardboard Sheet



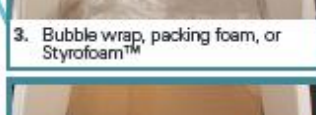
5. Bubble wrap, packing foam, or Styrofoam™



4. Vaccines, Diluents, and Temperature Monitoring Device Probe



3. Bubble wrap, packing foam, or Styrofoam™



2. Cardboard Sheet



1. Conditioned Water Bottles

**Close lid** – Close the lid and attach DDL display and temperature log to the top of the lid.

**Conditioned frozen water bottles** – Fill the remaining space in the cooler with an additional layer of conditioned frozen water bottles.

**Insulating material** – Another sheet of cardboard may be needed to support top layer of water bottles.

**Insulating cushioning material** – Cover vaccines with another 1 in. layer of bubble wrap, packing foam, or Styrofoam™

**Vaccines** – Add remaining vaccines and diluents to cooler, covering DDL probe.

**Temperature monitoring device** – When cooler is halfway full, place DDL buffered probe in center of vaccines, but keep DDL display outside cooler until finished loading.

**Vaccines** – Stack boxes of vaccines and diluents on top of insulating material.

**Insulating cushioning material** – Place a layer of bubble wrap, packing foam, or Styrofoam™ on top (layer must be at least 1 in. thick and must cover cardboard completely).

**Insulating material** – Place 1 sheet of corrugated cardboard over water bottles to cover them completely.

**Conditioned frozen water bottles** – Line bottom of the cooler with a single layer of conditioned water bottles.

### NOTE:

This pack-out can maintain appropriate temperatures for up to 8 hours, but the container should not be opened or closed repeatedly.

## 3 Arrive at Destination

**Before opening cooler** – Record date, time, temperature, and your initials on vaccine temperature log.

**Storage** – Transfer boxes of vaccines quickly to storage refrigerator.

**Troubleshooting** – If there has been a temperature excursion, contact vaccine manufacturer(s) and/or your immunization program before using vaccines. Label vaccines "Do Not Use" and store at appropriate temperatures until a determination can be made.



# COVID-19 VACCINE BEYOND USE DATE CALCULATION FLOW CHARTS FOR TRANSPORTED VACCINE

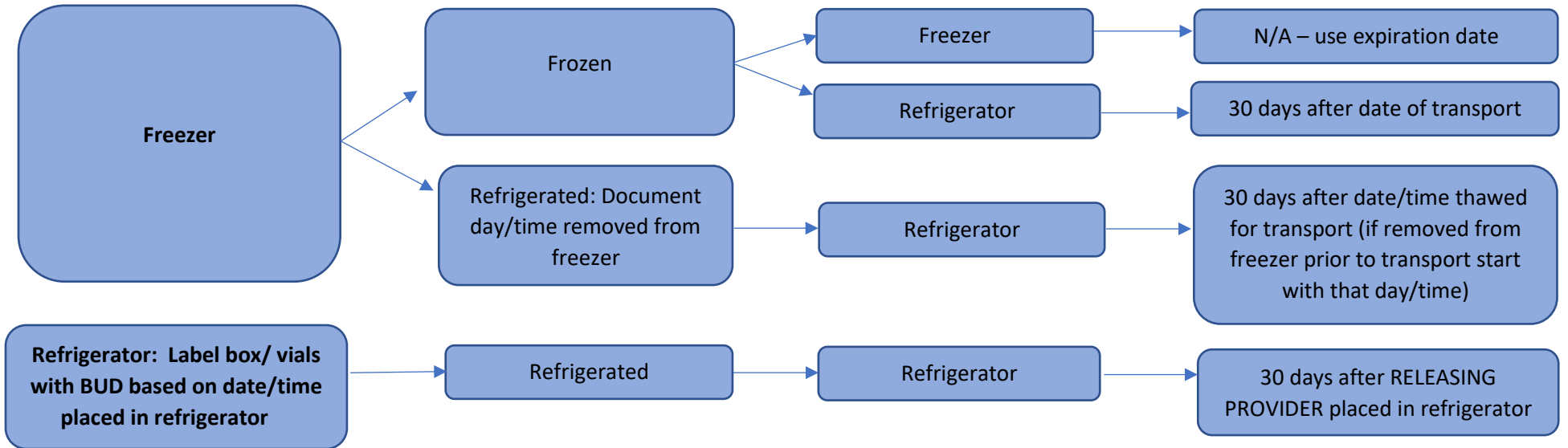
How was vaccine stored prior to transport?

How was vaccine transported?

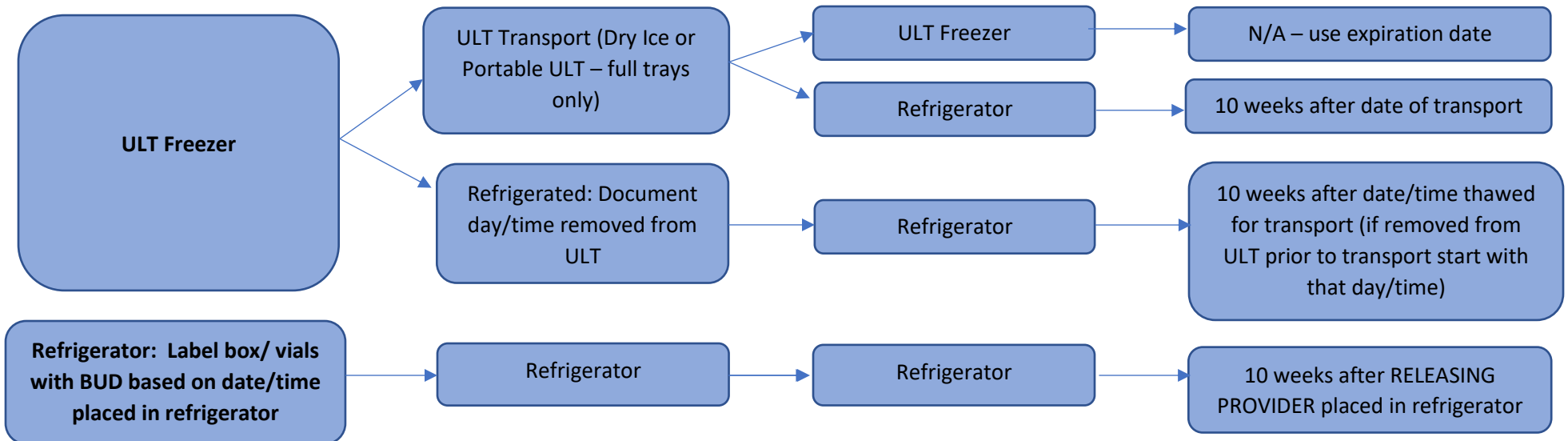
How is vaccine being stored after transport?

Beyond Use Date\* (never to exceed expiration date)

## MODERNA VACCINE: NO ULT STORAGE OR TRANSPORT, ONCE THAWED DO NOT REFREEZE



## PFIZER GRAY CAP (12+) or PFIZER ORANGE CAP (5-11) – NO STANDARD FREEZER STORAGE OR TRANSPORT; ONCE THAWED DO NOT REFREEZE





### \*Beyond Use Dates (BUDs):

All vaccines have expiration dates, and some routinely recommended vaccines have a beyond use date (BUD), which is calculated based on the date the vial is first punctured and the storage information in the package insert. Whenever a vial of COVID-19 vaccine is moved to storage conditions that affect BUD or a multidose vial is punctured, label the vial(s) with the beyond use date/time. **The BUD must never exceed the labeled expiration date.** Once the vaccine has reached its expiration or beyond use date/time, unused doses must be disposed of as medical waste and [reported as wastage in NYSIS](#) or CIR. A summary of COVID-19 vaccine beyond use dates and resources are listed below.

- Pfizer age 12 and older (vials have purple caps): [Pfizer-BioNTech COVID-19 Vaccine Beyond-Use Date \(BUD\) Tracking Labels for Vaccine During Freezer or Refrigerator Storage](#)
  - Freezer (-25° C to -15° C): Two weeks
  - Refrigerator (2° C to 8° C): 31 days
  - After Puncture: 2° C to 25° C for up to 6 hours

\*If you are unsure how to calculate BUD for Pfizer purple cap vaccine removed from ULT storage, please email [COVID19Vaccine@health.ny.gov](mailto:COVID19Vaccine@health.ny.gov) prior to transport.

- Pfizer Adult/Adolescent Tris (Gray Cap, age 12+, no diluent): [Beyond-Use Date \(BUD\) Tracking Labels for Vaccine During Refrigerator Storage](#)
  - Refrigerator (2° C to 8° C): 10 weeks
  - **NOTE: NO standard freezer (-25° C to -15° C) storage allowed**
  - Room temperature (8° C to 25° C): 12 hours prior to first puncture
  - After Puncture: 2° C to 25° C for up to 12 hours. Vial labels and cartons may state that a vial should be discarded 6 hours after the first puncture. The information in the EUA Fact Sheet (12 hours) supersedes the number of hours printed on vial labels and cartons.
- Pfizer Pediatric Tris (Orange Cap): [Beyond-Use Date \(BUD\) Tracking Labels for Vaccine During Refrigerator Storage](#)
  - Refrigerator (2° C to 8° C): 10 weeks
  - **NOTE: NO standard freezer (-25° C to -15° C) storage allowed**
  - Room temperature (8° C to 25° C): 12 hours prior to first puncture
  - After Puncture: 2° C to 25° C for up to 12 hours. Vial labels and cartons may state that a vial should be discarded 6 hours after the first puncture. The information in the EUA Fact Sheet (12 hours) supersedes the number of hours printed on vial labels and cartons.
- Moderna: [Moderna COVID-19 Vaccine Beyond-Use Date \(BUD\) Tracking Label for Vaccine During Refrigerator Storage](#)
  - Refrigerator (2° C to 8° C): 30 days
  - After Puncture: 2° C to 25° C for up to 12 hours
- Janssen/J&J: [Janssen COVID-19 Vaccine Preparation and Administration Summary](#)
  - After Puncture: 2° C to 8° C up to 6 hours OR 9° C to 25° C for up to 2 hours. These times are NOT cumulative (i.e., you cannot store a punctured vial for 6 hours at refrigerated temperatures and then another 2 hours at room temperature).