VACCINE STORAGE FOR TRANSPORT

Vaccine may be moved as part of a planned redistribution or in response to an emergency that could compromise its viability. Vaccine transport can only occur when a process is in place to ensure vaccine viability, as outlined below and in the CDC Vaccine Storage and Handling Toolkit. This includes use of a certified, calibrated digital data logger (DDL) for temperature monitoring during transport, as well as appropriate packing equipment detailed below.

The Vaccine/VFC Primary and Backup Coordinators are expected to be experts in the implementation vaccine storage for transport. Providers should ensure appropriate steps for moving vaccine are outlined in their Emergency Back-up Protocol and plan for vaccine redistribution, where applicable.

TRANSPORT SITUATIONS & PACKING METHODS

Transport packing methods differ between 1) Emergency transport and 2) Planned transport such as for off-site clinics, satellite facilities, or re-location of stock. In either case, a portable refrigerator/freezer is always the preferred method.

Emergency transport requires either portable vaccine storage units (portable vaccine refrigerator/freezer), qualified containers and pack-outs, or the conditioned water bottle transport system.

- For step-by-step guidance on packing a cooler for emergencies using the conditioned water bottle method, see CDC's Packing for Emergency Transport.

Planned transport requires either portable refrigerators/freezers or qualified containers and pack-outs (e.g., Cool Cubes, TempArmour, etc.). The conditioned water bottle method **should not be used for planned transport.**

- Follow instructions specific to the portable refrigerator/freezer or qualified container/pack-out used.

TRANSPORT METHOD REQUIREMENTS: EMERGENCY VERSUS PLANNED

Transport Method	Emergency Transport	Planned Transport (Off-site Clinic, Satellite Facility, or Relocation of Stock)
Portable Vaccine Storage Unit (preferred)[1]	Yes	Yes
Qualified Container and Pack-out[2]	Yes	Yes
Conditioned Water Bottle Transport System[3]	Yes	**No**
Manufacturer's Original Shipping Container[4]	Yes (last resort only)	**No***

*The original shipping container for ultra-cold COVID-19 vaccine can be used for transport.

1. **Portable Vaccine Storage Unit** - A type of **powered** refrigerator, freezer or Ultra-Cold (UTC) freezer unit specifically designed for use during vaccine transport. These are passive units that require a power source to function. Some active units are "qualified" to maintain desired temperatures for a set amount of time in the event of a power loss. For proper use, follow directions stated in manufacturer instructions.
2. **Qualified Container and Pack-out:** A type of container and supplies specifically designed for use when packing vaccines for transport. They are passive containers that do not require a power source and are "qualified" through laboratory testing under controlled conditions to ensure they achieve and maintain desired temperatures for a set amount of time (i.e., Cool Cubes, TempArmour, etc.). For proper use, follow directions stated in manufacturer instructions.
3. **Conditioned Water Bottle Transport Method:** Method outlined according to CDC's Packing for Emergency Transport. This is for ***emergency transport only***; it should not be used for planned transport such as off-site clinics, transport to a satellite facility, or relocation of stock. If packed correctly, this method can maintain appropriate temperatures for up to 8 hours, but the container should not be opened or closed repeatedly.
4. **Manufacturer's Original Shipping Container:** CDC and Pfizer have issued statements that the original shipping container can be used for transporting Pfizer's Ultra-cold vaccine.

PORTABLE VACCINE STORAGE UNIT (PREFERRED)	QUALIFIED CONTAINER & PACK-OUT	CONDITIONED WATER BOTTLE TRANSPORT	MANUFACTURER'S ORIGINAL SHIPPING CONTAINER
			
Planned or Emergency	Planned or Emergency	Emergency ONLY	Planned UTC COVID-19 transport or Emergency as a last resort

MATERIALS FOR TRANSPORT

Maintain sufficient materials for transport of your largest inventory. Keep these available at all times and detail their use within in your Vaccine Management & Emergency Response Plan. Such materials include:

- ☐ Portable vaccine storage units (refrigerator/freezer units - preferred)
- ☐ Qualified vaccine-specific coolers or pack-out containers (Cool Cube, TempArmour, etc.)
- ☐ Coolant materials such as phase change materials (PCMs) for vaccine-specific coolers above
- ☐ Hard-sided insulated containers or Styrofoam™
- ☐ Frozen water bottles that can be conditioned to maintain appropriate vaccine storage ranges
  - Conditioned water bottle transport method is for **emergency** transport only
- ☐ A digital data logger for **each** cooler/refrigerator (certified and up-to-date calibration)
- ☐ Insulating materials: bubble wrap and cardboard
- ☐ Printed out guidance on Packing for Emergency Transport
- ☐ Pen and paper for temperature documentation before, during, and after transport

Do **NOT** use coolant packs from shipments, soft-sided food/beverage coolers or dry ice (unless using dry ice in the Pfizer vaccine original shipping container for UTC COVID-19 transport).

PACKING & MONITORING VACCINE DURING TRANSPORT

- Follow manufacturer's guidance when using a portable refrigerator/freezer or a qualified container and pack-out designed for vaccine transport (typically includes specific materials and "conditioning" processes).
- Never freeze diluents, not even during transport.
- Place calibrated temperature monitoring device (preferably a digital data logger with a buffered probe) in the container. Place the device/probe as close as possible to vaccine(s).
- Document time and temperatures at the start, during, and end of transport - if longer than 1 hour, document hourly. If device displays min/max temperatures, review and record information.
- **Transporting Opened Multidose Vials**: A partially used vial **cannot be transferred from one provider to another**.

UPON ARRIVAL

- Before opening the transportation storage unit, record the date, time, temperature and your initials on the vaccine temperature log.
- Quickly transfer vaccine to storage device at appropriate temperature.

GUIDANCE SPECIFIC TO FROZEN VACCINE (EXCLUDING ULTRA-COLD FROZEN VACCINE)

CDC recommends transport of vaccine at refrigerator temperatures whenever possible. If vaccine is transported frozen:

- A portable freezer is BEST practice. All other options increase the likelihood of a vaccine excursion.
- Use a portable vaccine freezer or qualified container and pack-out that maintains temperatures between -58.0° F to +5.0° F (-50.0° C to -15.0° C).
- Do NOT use dry ice, even for temporary storage or emergency transport.

GUIDANCE SPECIFIC TO THE PFIZER VACCINE THAT REQUIRES ULTRA-COLD STORAGE

Transportation in a portable UTC freezer, CDC approved pack-out, or the manufacturer's original shipping container are acceptable methods

- Use a portable vaccine UTC freezer or qualified container and pack-out that maintains temperatures between -76° F to -112° F (-60.0° C to -80.0° C).

Sources:

- Guidance adapted from Michigan Department of Health & Human Services
- Portable Vaccine Refrigerator/Freezer Image: http://www.accucold.com/product/SPRF26M
- Qualified Container & Pack-out Image: https://www.vericormed.com/product/cooler-cool-cube-08- vaccine-transport-cooler-at-refrigerated-temperatures-fresh-vaccine-vt-08/
- Conditioned Water Bottle Method Image: https://www.cdc.gov/vaccines/recs/storage/downloads/emergency-transport.pdf

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