

# Emergency Vaccine Transport Guidance

## Overview

Emergency transport involves relocating vaccines to protect them when a facility's ability to store vaccines is compromised (e.g., because of power loss). If transport must occur, providers must have the materials listed below given there's a need for emergency transport. It's critical to have an up-to-date emergency plan with guidance on what to do to protect the vaccine supply. The emergency plan must include the name and address of the alternative storage facility.

**Note:** Instructions for emergency transport may vary for some vaccines. Review manufacturer guidance for each vaccine product to ensure cold chain is maintained properly.

## Preparedness Before an Emergency

- Suspend vaccination activities **before** the onset of emergency conditions to allow sufficient time to pack and transport vaccine.
- If it's apparent that emergency conditions will last for an extended period, prepare to transport vaccine to an alternative storage facility.
- Confirm the availability of trained staff to assist with vaccine transport.
- Ensure the alternative storage facility has a dedicated unit or shared space that can maintain temperatures at the appropriate range.

| Emergency Vaccine Transport System Recommendations |                                      |
|----------------------------------------------------|--------------------------------------|
| Container                                          | Emergency Transport                  |
| Portable Vaccine Refrigerator or Freezer           | Yes                                  |
| Qualified Container and Packout                    | Yes                                  |
| Conditioned Water Bottle Transport System          | Yes (for refrigerated vaccines only) |
| Manufacturer's Original Shipping Container         | Yes (last resort only)               |
| Food/Beverage Coolers                              | No                                   |

## Materials Needed for Vaccine Transport

|                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <ul style="list-style-type: none"> <li>○ <b>Transport Container:</b> Hard-sided cooler or Styrofoam™ vaccine shipping container.</li> <li>○ <b>Size:</b> cooler must be large enough for your facility's typical supply of vaccines.</li> <li>○ <b>DO NOT</b> use soft-sided collapsible coolers.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|  | <ul style="list-style-type: none"> <li>○ <b>Size:</b> – 16.9- or 8-ounce water bottles for conditioning.</li> <li>○ Phase change materials (PCMs) that can be conditioned to 4°C to 5°C can also be used.</li> <li>○ <b>Conditioned Water Bottles for Refrigerated Vaccines:</b> 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 the bottle. The bottle is properly conditioned if the ice block inside spins freely when rotated.</li> <li>○ <b>Frozen Vaccines:</b> Use frozen water bottles or freezer packs when – transporting frozen vaccines.</li> <li>○ <b>DO NOT</b> reuse coolant packs from original vaccine shipping containers, as they increase the risk of freezing vaccines.</li> </ul> |

## North Carolina Immunization Program (NCIP)

|                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <ul style="list-style-type: none"> <li>○ <b>Insulating Materials:</b> Bubble wrap and corrugated cardboard – enough to form two layers in the cooler.</li> <li>○ <b>Bubble wrap:</b> must be at least 1 inch thick and make sure it covers the cardboard completely.</li> <li>○ <b>Corrugated Cardboard:</b> must be cut to its interior dimensions of cooler (s).</li> </ul>                                                                                                                                            |
|  | <ul style="list-style-type: none"> <li>○ <b>Temperature Monitoring Device:</b> Use a digital data logger (DDL) with a buffered probe.</li> <li>○ <b>Accuracy:</b> Data logger must have an accuracy of <math>\pm 0.5^{\circ}\text{C}</math> (<math>\pm 1^{\circ}\text{F}</math>).</li> <li>○ <b>Calibration Requirement:</b> Data logger must maintain a valid and up-to-date certificate of calibration.</li> <li>○ <b>Probe Preparation:</b> Pre-chill buffered probe for at least 5 hours in refrigerator.</li> </ul> |

## Transporting Refrigerated Vaccines

- **Packing for Transport:**
- **Step 1:** Place a layer of **conditioned** water bottles at the bottom of the cooler.
- **Step 2:** Followed by a sheet of cardboard.
- **Step 3:** Add a layer of insulating material (2-3 inches of bubble wrap, packing foam, or Styrofoam™).
- **Step 4:** Add vaccine into the cooler covering the thermometer probe.
- **Step 5:** Add a second layer of insulating materials.
- **Step 6:** Add another sheet of cardboard for support.
- **Step 7:** Add another layer of **conditioned** water bottles.
- **Step 8:** Lastly, attach data logger display to the lid of the cooler along with the temperature log.

## Transporting Frozen Vaccines (Emergency-Only)

- **Packing for Transport:**
- **Step 1:** Place a layer of frozen water bottles **or** freezer packs at the bottom of the cooler.
- **Step 2:** Add vaccine into the cooler covering the thermometer probe.
- **Step 3:** Add a second layer of frozen water bottles **or** freezer packs to cover vaccine.
- **Step 4:** Fill the cooler on top with insulation material (bubble wrap).
- **Step 5:** Lastly, attach data logger display to the lid of the cooler along with the temperature log.

## Temperature Monitoring After Transport

---

- **Temperature Monitoring:** Before opening cooler, record date, time, temperature, and the initials of the person that assisted with the transport.
- **Storage Upon Arrival:** Vaccines must be immediately stored in an appropriate storage unit equipped with a digital data logger upon arrival at the clinic or facility.
- **Troubleshooting:** If a temperature excursion occurred during transport, contact the NCIP to determine viability for the vaccines. Label the vaccines “**Do Not Use**” and store them at appropriate temperatures until viability has been assessed.

For assistance, contact the NCIR Help Desk by  
Phone: 1.877.USE.NCIR (873-6247)  
Email: [ncirhelp@dhhs.nc.gov](mailto:ncirhelp@dhhs.nc.gov).