



Indiana Department of Health-Immunization Division

When initiating emergency procedures, vaccines should never be placed in the trunk or bed of a vehicle and the temperature should be maintained before placing vaccines in the vehicle.

Every clinic should also have an emergency vaccine retrieval and storage plan. The plan should be easily accessible to staff and identify a backup location where the vaccine can be stored. Considerations when choosing this site include appropriate storage units, temperature monitoring capability, and a backup generator. Potential backup locations might include a local hospital, pharmacy, long-term care facility, or the Red Cross.

Providers should keep an adequate supply of packing materials (i.e. coolers/insulated shipping containers, cardboard, bubble wrap, and frozen water bottles) and calibrated temperature monitoring device(s) to accommodate the facility's vaccine supply, if transport is needed.

All providers should follow the following steps in the event of an emergency to ensure the viability of all publicly funded vaccines.

Step 1) Provider notifies the emergency contact person for the site

Step 2) Provider determines if a generator or alternate power source is available. If so, ensure that all steps are followed to maintain the vaccines within the required temperature range for each storage unit.

Step 3) If the power failure will be temporary (less than 2 hours), providers should do the following:

- a. Ensure that the refrigerator and freezer doors remain closed for the duration of the outage.
- b. Document the time of the power outage and the duration of the outage.
- c. Document the room temperature during the outage.
- d. Monitor the temperatures during this time.

Under these conditions, it is not necessary to remove the vaccines from the storage unit since the rise in temperature could be only slight or insignificant.

Step 4) If the power or equipment failure is expected to last longer than 2 hours, follow these steps:

- a. Maintain use of generator or alternate power source and ensure that vaccines continue to be stored at appropriate temperatures.
- b. If an alternate power source or equipment is not available, the provider should begin making arrangements to transfer the vaccine to a predetermined emergency storage facility.
- c. The provider should begin packing the vaccine for transfer to the alternate location
 - 1) The vaccine should be placed in insulated transport containers or shipping boxes with conditioned water bottles, cardboard, bubble wrap, and a continuous temperature monitoring device. Please refer to the **packing order diagram** for further guidance.
 - i. All refrigerated vaccines should be transported at 36° to 46°F (2° to 8°C)
 - ii. All varicella-containing or frozen vaccines should be transported at 5°F (-15°C) or colder. Use of dry ice is not recommended, even for temporary storage or emergency transport.

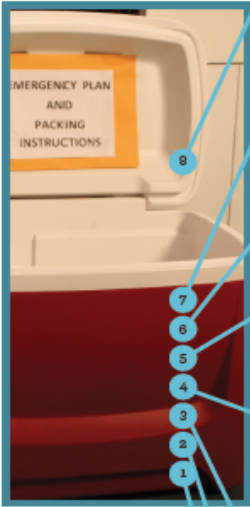
The CDC and vaccine manufacturer do not recommend transporting varicella-containing vaccines. If these vaccines must be transported, CDC recommends transport with a portable freezer unit that maintains the temperature between -58°F and +5°F (-50°C and -15°C). If varicella-containing vaccines must be transported and a portable freezer unit is unavailable, the vaccine MAY be transported at refrigerator temperature 36° to 46°F (2° to 8°C) for up to 72 continuous hours prior to being reconstituted. Please see the Special Instructions for Transport of Varicella-Containing Vaccines located in the References and Resources section of the policy manual.

- iii. Measles, mumps, and rubella vaccine (M-M-R-II) may be transported in a refrigerated or frozen state.
 - iv. Diluent does not need refrigeration and cannot be frozen.
- d. If at any time during the power outage or equipment failure, the temperature is recorded **above** or **below** the recommended range, **DO NOT USE** the vaccine until the following steps are taken and the viability of the vaccine has been determined.
- i. Immediately check the continuous temperature monitoring device for correct placement and operation.
 - ii. Contact the Indiana Immunization Division at (800) 701-0704.
 - iii. Contact the manufacturer of each affected vaccine.
- e. In the event of an outage or equipment failure or if temperatures are **above** or **below** the recommended temperature for an extended period of time **AND** the vaccine was not relocated, immediately contact the manufacturer and your designated Regional Quality Assurance Specialist.


Packing Order Diagram

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.




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



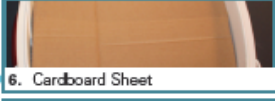
8. Temperature Monitoring Device Display (on lid)

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



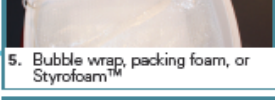
7. Conditioned Water Bottles

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




6. Cardboard Sheet

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




5. Bubble wrap, packing foam, or Styrofoam™

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




4. Vaccines, Diluents, and Temperature Monitoring Device Probe

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.




3. Bubble wrap, packing foam, or Styrofoam™

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).



2. Cardboard Sheet

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



1. Conditioned Water Bottles

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



References & Resources

Centers for Disease Control and Prevention. (2020) Vaccine Storage and Handling Toolkit, Revised January 2020. <https://www.cdc.gov/vaccines/hcp/admin/storage/toolkit/storage-handling-toolkit-2020.pdf>

Centers for Disease Control and Prevention. (13th Edition) Epidemiology & Prevention of Vaccine-Preventable Diseases, Pink Book. Revised 2015. <http://www.cdc.gov/vaccines/pubs/pinkbook/index.html>

Emergency Response Worksheet, Immunization Action Coalition. <http://www.immunize.org/catg.d/p3051.pdf>

Revision History

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