



**Department  
of Health**

**NYS Vaccines for Children (VFC) Program  
Training Series  
17: Vaccine Transport**

New York State Department of Health  
Bureau of Immunization

Hello and welcome.

The objective of this training is to provide general guidance to NYS Vaccines for Children (VFC) providers on transporting vaccine.

While the routine transport of vaccine is not recommended, in certain situations the transport of vaccine may be necessary to protect vaccine supply and prevent vaccine wastage.

A separate guidance document is available which gives detailed step by step instructions for transporting vaccine. This document can be found by visiting the resources section at the end of this training.

## NYS VFC Program Requirements

- Obtain prior approval for non-emergency transport
- Adhere to proper transport protocols
- Have an emergency storage and handling plan
  - Include procedures for transport of vaccine
  - Vaccine coordinator, backup and provider of record are responsible for ensuring proper transport
  - Refer to Training #4
- Complete Transport Tracking Form any time vaccine is transported



The NYS VFC program requires that providers get prior approval from the VFC Program for non-emergency transport situations

and that vaccine is transported according to proper transport protocols as outlined in the separate Transport Guidance document.

Providers are also required to have an emergency vaccine storage and handling plan in place which outlines

standard operating procedures for vaccine transport.

The vaccine coordinator, backup and provider of record are responsible for ensuring the proper transport of vaccine.

Your facility's Emergency Plan should include written protocols with information on transport equipment, transport vehicles and information on the alternate storage facility. Training #4 in this series provides more information on developing emergency plans.

VFC providers must complete transport tracking forms anytime vaccine is transported.



# Vaccine Transport

- Movement of vaccine over a short time and distance between locations
- Always follow proper storage and handling guidelines
- Not recommended as a routine practice
  - Each transport increases risk of exposing vaccines to inappropriate storage conditions



Image obtained from the CDC's Vaccine Storage and Handling Toolkit



Vaccine transport refers to the movement of vaccine over a short time and distance between locations.

Vaccines should be transported using proper storage and handling guidelines.

Be aware that vaccine manufacturers do not generally recommend or provide guidance for transport of vaccines, and the Centers for Disease Control and Prevention (CDC) and NYSDOH VFC Program discourages routine transport, because each transport increases risk of exposing vaccines to inappropriate storage conditions.

## Situations Requiring Vaccine Transport

- Transport vaccine to an alternate/backup facility in an emergency (e.g., power outage, equipment failure, natural disaster)
  - Follow Emergency Storage and Handling plan
- Physical location of office has changed (office move)
  - Notify VFC to ensure contact information is up to date (e.g., delivery of vaccine orders)
- Additional examples available in Transport Guidance document



While the routine transport of vaccine is not recommended, as mentioned previously, in certain situations the transport of vaccine to an alternate or backup facility for temporary storage may be necessary to protect vaccine supply. Examples of emergencies include but are not limited to: power outages, equipment failure, or natural disaster.

NYS VFC providers should refer to their Emergency Vaccine Storage and Handling Plans for guidance on handling vaccines in emergency situations. Providers who need to transport vaccines during emergencies are not required to obtain approval prior to transporting to a backup facility.

Another situation which may require the transport of vaccine would be when an office's physical location moves.

Always notify the VFC program ahead of time if your office's physical location is changing to ensure that the most accurate contact information is on file for your practice.

Additional examples of situations requiring transport of vaccine can be found in the Vaccine Transport Guidance document. A link is included in the Resources section on the last slide of this training.

## Planning Transport: Factors to Consider

- Type and amount of vaccines
- Time of year and seasonal temperatures
- Storage units at alternate facility
  - Are they operating normally?
  - Is there enough room?
- Transport containers, packing materials, temperature monitoring devices



There are many factors to consider when transporting vaccines.

The first is the type and amount of vaccine being transported. For example, how many transport containers will be needed and will the vaccines require refrigerated or frozen temperatures?

Also consider the time of year and the seasonal temperature when planning to transport vaccines. For example, if it is very hot outside, precooling the transport vehicle is a good practice.

The status of the storage units at the alternate or backup facility is another factor.

For example, are the storage units at the alternate facility operating normally?

Do they have enough room for additional vaccine?

And, finally you'll want to ensure that your facility has access to acceptable transport equipment including containers, packing materials and temperature

monitoring devices. Your practice's emergency plan should include information on these items.

## Transport Equipment: Containers

### Option 1 (Best) Portable refrigerator and freezer units

- Built-in temperature regulation

### Option 2 Qualified Containers and Pack outs

- Tested under lab conditions
- Polystyrene coolers
- Styrofoam vaccine shipping containers
  - Pack out = method used to pack vaccine (e.g., insulating material, water bottles ,etc.)
- Refer to separate guidance documents

### Option 3 Hard-sided insulated coolers\* (short-term only)

- Must have 2-inch walls
- Must maintain appropriate temperatures
- Use for short-term transport only (i.e. emergencies, short distances)

**\*NEVER use soft-sided or collapsible coolers for vaccine transport.**



Portable vaccine refrigerator and freezer units are considered the best option for vaccine transport.

They're preferable because they use built-in temperature regulation, which is controlled by a thermostat, to maintain the temperature, and do not require the use of water bottles or insulating materials to ensure temperature consistency.

Qualified containers and pack outs are tested under laboratory conditions and are acceptable to use for emergency or short-term vaccine transport, when portable vaccine refrigerator and freezer units are not available. Although they do not have built-in temperature regulation, they have the capacity to maintain appropriate temperatures when a qualified pack out method is also used.

Polystyrene coolers or intact Styrofoam vaccine shipping containers are examples of qualified containers that are available for purchase and also reusable.

Qualified pack outs are the tested methods used to pack vaccine such as insulating material, cardboard, and water bottles. Qualified pack outs require specific supplies and packing procedures to minimize temperature excursions.

Specific instructions on pack outs is included in separate guidance documents. Links to those documents are located in the resources section of this training.

Hard-side insulated coolers with 2-inch walls, capable of maintaining appropriate temperatures are acceptable to use for short-term vaccine transport (generally less than 2 hours).

Never use soft-sided or collapsible coolers for vaccine transport.

As mentioned previously, any equipment designated for transport should be indicated in your practice's Emergency Plan.

## Transport Equipment: Calibrated Temperature Monitoring Device(s)

- Use calibrated, continuous temperature monitoring device
  - During transport and inside temporary storage
- **January 1, 2018:** Required to use a data logger when transporting vaccine
- Do not use cold chain monitors (CCMs)



Use a calibrated, continuous temperature monitoring device any time you transport vaccine and the entire time vaccine is stored in temporary or alternate storage.

The use of a continuous temperature monitoring device such as a digital data logger, during transport will be required effective January 1, 2018.

CDC does NOT recommend using cold chain monitors (CCMs) during transport since they do not provide adequate data on excursions that may occur. As a reminder, CCMs are the monitors that come in the box with each vaccine shipment.

## Transporting Vaccine: General Rules

- Maintain vaccine cold chain at all times.
- Always use continuous, calibrated temperature monitoring device to monitor temperatures
- Never place vaccine in trunk of vehicle
  - Place in passenger seat
- **Do not use DRY ICE to transport vaccine.**
- Keep transport containers closed as much as possible
- Promptly unpack and place vaccine in acceptable storage units that:
  - Meet VFC Program requirements
  - Maintain appropriate temperatures
  - Have adequate space available
  - Have a continuous temperature monitoring device with a valid calibration certificate



Image obtained from the CDC's Vaccine Storage and Handling Toolkit



Vaccine potency should be protected by maintaining the vaccine cold chain at all times during the transport.

Always use a continuous, calibrated temperature monitoring device to monitor temperatures.

If transporting vaccine in a passenger vehicle, such as your personal vehicle, the vaccine should be placed in the passenger seat during transport. Because temperatures in the trunk can be impacted by seasonal temperatures and can't be regulated while the car is moving, never place vaccine in the trunk of the vehicle.

Do not use dry ice to transport vaccine and keep transport containers closed as much as possible.

Once you arrive at your alternate storage location, be sure to immediately unpack and place vaccine in acceptable storage units.

An acceptable vaccine storage unit is a unit that:

meets VFC Program Requirements,  
 maintains appropriate temperature,  
 has adequate space available in it and  
 a continuous, temperature monitoring device with valid calibration certificate. It's acceptable to use the temperature monitoring device used during transport.

## Transporting Vaccine: General Rules (cntd.)

- Whenever possible, transport refrigerated vaccine in a separate container from frozen vaccine.
  - Frozen vaccine can be transported at refrigerated temperature
- Keep frozen water bottles in your freezer
  - Help maintain temperatures
  - Can be conditioned and used during transport
- Follow Transport Guidance document for details
- Always contact manufacturers or NYS VFC Program if there are questions about vaccine viability.
  - Do not discard vaccine unless directed to do so by manufacturer.



Image obtained from the [CDC's Guidance for Emergency Transport](#)



Whenever possible, transport refrigerated vaccine and frozen vaccine in separate containers.

Frozen vaccine or varicella-containing vaccine can be transported at refrigerated temperatures.

Keep frozen water bottles in your freezer.

The frozen water bottles can help to maintain temperatures inside of the freezer during power outages or defrost cycles.

The frozen water bottles can then be conditioned and used during transport.

Follow the Transport Guidance for information on how to condition frozen water bottles and/or how to transport frozen vaccine at refrigerated temperatures. A link to the transport guidance document can be found in the resources section at the end of this training.

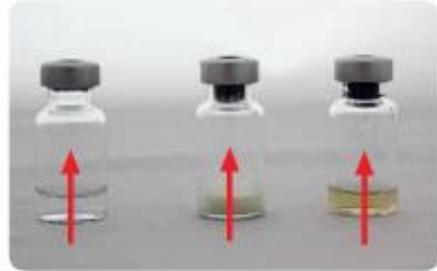
If you have concerns about vaccines or diluents that may have been

compromised (exposed to inappropriate conditions/ temperatures or handled improperly), label them “Do NOT Use” store them under appropriate conditions and then immediately contact the NYS VFC Program and/or vaccine manufacturer(s) for guidance.

Do NOT discard the vaccines or diluents unless directed to do so by the manufacturer.

## Transporting Diluents

- Transport diluents with corresponding vaccines
- Follow manufacturer guidance
- Diluents that contain antigen should be transported with corresponding vaccines at refrigerator temperature
- If possible, refrigerate diluents stored at room temperature in advance so that they will not increase temperature in the transport container.
- Never FREEZE diluents



**Diluent + Lyophilized Powder = Reconstituted Vaccine**

CDC Storage and Handling Toolkit



Diluents should be transported with their corresponding vaccines to ensure there are always equal amounts of vaccine and diluent for reconstitution.

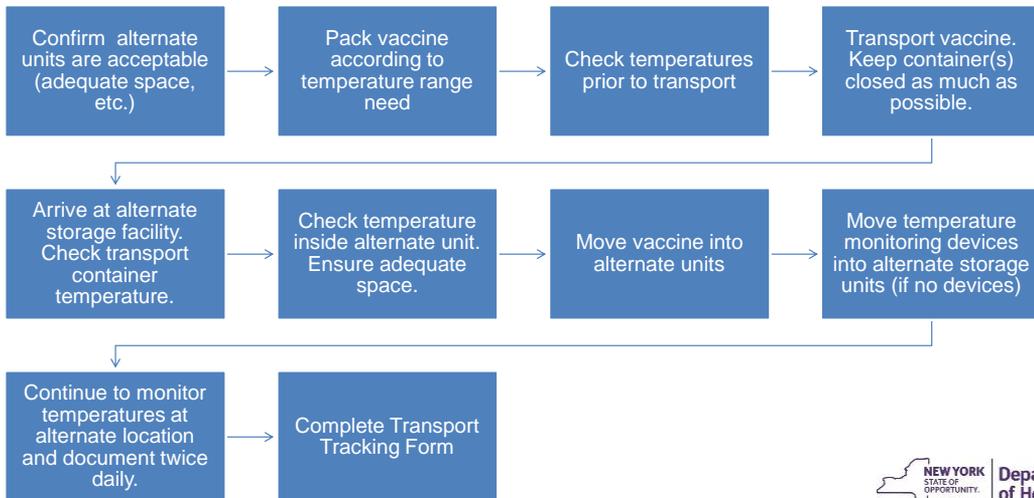
Refer to manufacturer guidance for specific diluent temperature requirements.

Diluents that contain antigen such as DTaP-IPV used with Hib lyophilized vaccine, should be transported with corresponding vaccines at refrigerator temperature. Place an insulating barrier between diluents and water bottles.

If possible, refrigerate diluents that are stored at room temperature before transporting them with refrigerated vaccines to prevent the room temperature diluents from increasing the temperature in the transport container.

**NEVER** freeze diluents, even in transport. It's preferable not to store diluents in the same container as frozen vaccine. If it is necessary to store them in the same container, ensure that they are properly insulated and protected from any freezing temperatures.

## Transport Process



This diagram shows an overview of the steps of the vaccine transport process.

First, you should confirm that the alternate or backup storage units are acceptable and have adequate space for additional vaccine.

Next, pack the vaccine according to the temperature needed, either refrigerated or frozen.

Use a temperature monitoring device to check the temperature of the vaccine prior to transport.

During transport, keep the container closed as much as possible.

Upon arrival at the alternate facility, check and document the temperature of the transport container.

Next, check the temperature inside of the alternate vaccine storage unit and confirm there is adequate space for the transported vaccine.

Move the vaccine into the alternate units along with the temperature monitoring device

that was used during the transport.

Continue to monitor and document the temperatures at the alternate location twice daily.

Complete the transport tracking form and submit to the VFC Program as soon as possible. Transport tracking forms and detailed instructions on transporting vaccine can be found in the separate document Vaccine Transport Guidance shown on the resources slide at the end of this training.

## Key Messages: Transporting Vaccine

- Each VFC facility should have an emergency plan in place that outlines steps for transporting vaccine.
- Routine transport is not recommended.
- Transporting refrigerated or frozen vaccines using a portable refrigerator unit or a portable freezer unit is considered best practice.
- Beginning January 1, 2018, VFC Providers will be required to use a continuous temperature monitoring device or data logger when transporting vaccine vaccine.
- Each practice's vaccine coordinator and/or backup coordinator are responsible for adhering to proper transport protocols.
- Monitor temperatures of vaccines during transport and at temporary location.
- Never place vaccine in trunk of a passenger vehicle.
- Do not use soft-sided or collapsible coolers for vaccine transport.
- Do not use cold chain monitors (CCM) to monitor temperatures
- Never transport diluents at freezer temperatures.



In review:

Each VFC facility should have an emergency plan in place that outlines steps for transporting vaccine.

Routine transport of vaccine is not recommended because it increases the risk of exposing vaccine to inappropriate temperatures.

Transporting refrigerated or frozen vaccines using a portable refrigerator unit or a portable freezer unit is considered best practice.

Beginning January 1, 2018, VFC Providers will be required to use a continuous temperature monitoring device or data logger when transporting vaccine.

The vaccine coordinator and/or backup coordinator are responsible for adhering to proper transport protocols.

Ensure that the temporary or alternate storage units can safely store the vaccine that is to be transported, and monitor temperatures of vaccines during transport and while

at the temporary location.

Never place vaccine in trunk of a passenger vehicle and do not use soft-sided or collapsible coolers for vaccine transport.

Do not use cold chain monitors to monitor temperatures (CCMs).

Never transport diluents at frozen temperatures.

## Resources

### **New York State Vaccines for Children (NYS VFC) Program**

Guidance for Vaccine Transport

[http://www.health.ny.gov/prevention/immunization/vaccines\\_for\\_children/docs/guidance\\_vaccine\\_transport.pdf](http://www.health.ny.gov/prevention/immunization/vaccines_for_children/docs/guidance_vaccine_transport.pdf)

Vaccine Storage and Handling Emergency Plan Template

[http://www.health.ny.gov/prevention/immunization/vaccines\\_for\\_children/docs/emergency\\_storage\\_and\\_handling\\_plan.pdf](http://www.health.ny.gov/prevention/immunization/vaccines_for_children/docs/emergency_storage_and_handling_plan.pdf)

### **Centers for Disease Control and Prevention (CDC)**

Packing Vaccines for Transport during Emergencies

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

Vaccine Storage and Handling Toolkit, page 37

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

### **American Academy of Pediatrics (AAP)**

Safe Vaccine Transport

[https://www.aap.org/en-us/Documents/immunizations\\_vaccine\\_transport.pdf](https://www.aap.org/en-us/Documents/immunizations_vaccine_transport.pdf)

Disaster Planning

[https://www.aap.org/en-us/Documents/immunization\\_disasterplanning.pdf](https://www.aap.org/en-us/Documents/immunization_disasterplanning.pdf)



Here is a listing of available resources.

# Congratulations!

You have completed the final training in the NYS VFC Program Training Series.

- Please complete the attestation survey located at this link:

<https://www.surveymonkey.com/r/X5RQSXS>.

