

# Vaccine Management Plan

## Vaccine Manager Contact Information

The person in charge of vaccine storage and handling and the back-ups are:

**Name:** \_\_\_\_\_ **Home Telephone Number:** \_\_\_\_\_

**Back-up #1**  
**Name:** \_\_\_\_\_ **Home Telephone Number:** \_\_\_\_\_

**Back-up #2**  
**Name:** \_\_\_\_\_ **Home Telephone Number:** \_\_\_\_\_

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## Planning For an Emergency

### BACK-UP SYSTEM:

If you do not have a back-up generator, identify a location that has one (i.e. local hospital, retirement home, fire station or Red Cross.) Make an arrangement with the site to store your vaccine when your vaccine storage equipment cannot be fixed or the power cannot be restored within six hours.

**Back-up Location:** \_\_\_\_\_

**Telephone Number:** \_\_\_\_\_

Before moving your vaccine, call the location to ensure that their power is functional.

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### STAFF TRAINING/POSTED INFORMATION:

Post your vaccine emergency/recovery plan on or near the vaccine storage equipment.

Review and update the plan annually or when there is a change in staff responsible for vaccines

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Review "The Vaccine Management Plan" annually or if there is a change in vaccine managers

**Date Reviewed:**                      **Reviewed By:**                      **Updates Made: Yes/No**

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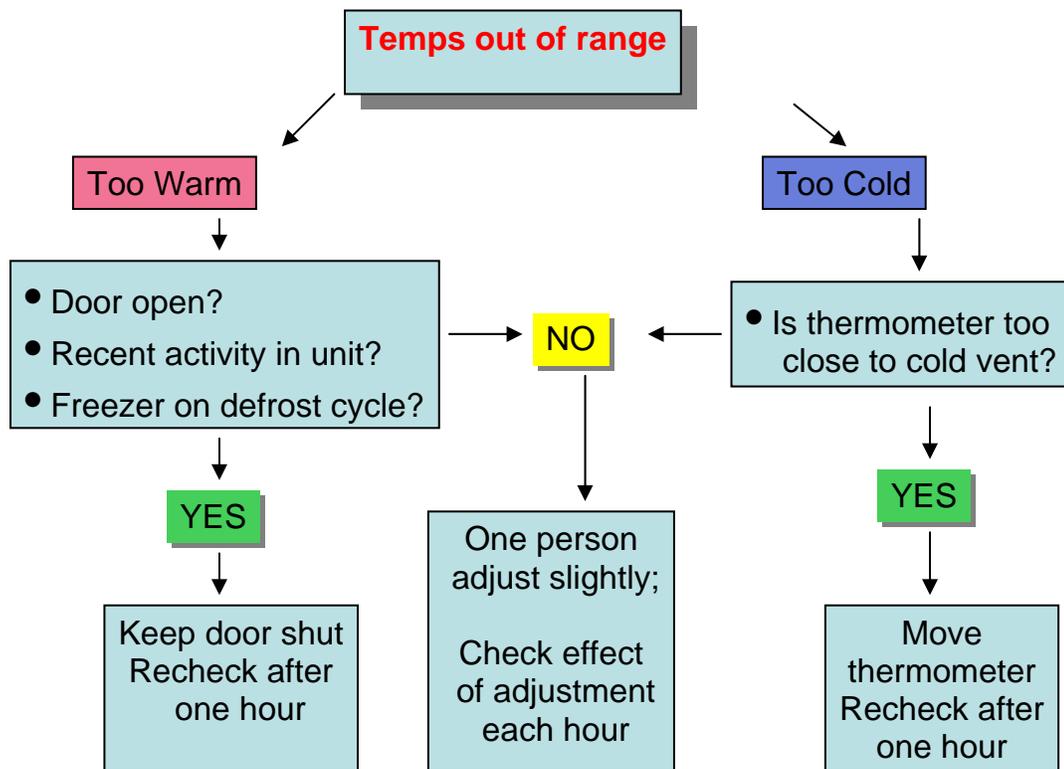
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## Standard Procedures for Vaccine Storage and Handling

1. A person should be designated in charge of vaccines and work with the Vermont Department of Health to gain knowledge and understanding of vaccine storage and handling policies. A back up person should also be designated.
2. Temperatures are to be recorded on a daily basis at the beginning and end of the clinic day. Use logs that notify individuals when temperatures are out of range. VDH supplies colored temperature logs that indicate when temperatures are out of range.
3. Temperature logs must be kept for three years.
4. Refrigerator temperatures must be maintained at **2°-8° C** or **35°-46° F**. Keep **above** freezing at all times. Vaccine vials/syringes that are stored below freezing often do not appear frozen. To avoid freezing temperatures: **Strive for 5° C**.
5. Freezer temperature should be **at least -15° C** (5° C or colder).
6. When out of range temperatures are found, corrective action must be taken (See “Temperatures Out of Range Flow Sheet” on the next page). Document all action taken on the back of the temperature logs provided by The VDH Immunization Program.
7. Do not make assumptions about vaccine viability when found outside of temperature range. Call the Immunization Program for further assistance.
8. Vaccine should be clearly labeled to differentiate what is state-supplied and what is privately purchased by the provider office.
9. Conduct monthly inventory to assure rotation of vaccines. Short dated vaccine must be used first.
10. When vaccine is nearing 30-60 days prior to expiration, and you will not be able to use it, return the vaccine to the Vermont Department of Health so it can be redistributed elsewhere. If vaccine does expire, it must be returned to the Vermont Department of Health.
11. In the event of mechanical or power failure, use the “Action Plan For Vaccine Storage Emergency” on page 5.

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## Temperature Out of Range Flow Sheet



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### Temperature still out of range?

Call VDH Immunization Program ASAP!

(802) 863-7638 or 1-800-464-4343 ext. 7638

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## Action Plan For Vaccine Storage Emergency

### Supplies to have on hand:

- Cooler(s)
- Frozen ice packs and cold packs
- Calibrated thermometer
- Insulation - such as Styrofoam peanuts or bubble wrap. The purpose of the insulator is to separate vaccine from direct contact with ice packs.
- Large zip lock bags - it is recommended to double bag vaccine to reduce any risk of contamination.

If the building has lost electrical power, check with building maintenance to ensure that a time for the restoration of electrical power can be determined. Implement the following procedures based on the amount of time of the power outage.

### During A Short-Term Power Outage (less than 6 hours):

#### Vaccine(s) In the Refrigerator:

**Do not** open the refrigerator door until the power shortage is resolved. Record the refrigerator temperature at time of failure and continue to monitor the temperature until it reaches 2 - 8 degrees C or 35 – 46 F once the power has been restored. Record the duration of increased temperature exposure and provide data on the maximum temperature and maximum duration of exposures to elevated temperatures. For more information see URL:

<http://www.cdc.gov/vaccines/recs/storage/vacc-weather-emerg.htm>

#### Vaccines(s) in the Freezer:

*Varicella and shingles vaccines are extremely temperature sensitive; therefore, contact Vermont Department of Health Immunization Program at 1-800-464-4343 ext 7638 immediately for further action.*

### During A Long-Term Power Outage (more than 6 hours):

#### VACCINE(S) IN THE REFRIGERATOR:

1. Place ice packs on the bottom of the cooler and cover it with insulation.
2. Place the vaccine on top of the insulation.
3. If the weather is warm, place insulation on top of the vaccine with 1 – 2 more ice packs on top.
4. If there is additional space in the cooler, use fillers.
5. Tape the lid on the cooler.
6. Label the outside of the cooler “**VACCINE - REFRIGERATE IMMEDIATELY**”.
7. Transport the vaccine in the passenger compartment of the vehicle and never in the trunk.

**VACCINE(S) IN THE FREEZER:**

- Varicella and shingles vaccines are extremely temperature sensitive and can be only transported on dry ice. Contact the Vermont Department of Health Immunization Program immediately for further action.

**After a Power Outage:**

- Store the vaccines at appropriate temperatures. Make sure that the refrigerator/freezer is working properly. Do not discard affected vaccine.
- Mark the vaccine “**DO NOT USE**” and separate it from viable vaccine.
- Record the following information:
  1. Temperature of refrigerator: current \_\_\_\_\_ max \_\_\_\_\_ min \_\_\_\_\_
  2. Temperature of freezer: current \_\_\_\_\_ max \_\_\_\_\_ min \_\_\_\_\_
  3. Air temperature of room where refrigerator is located: \_\_\_\_\_
  4. Estimated amount of time the unit’s temperature was outside of normal range: \_\_\_\_\_
  5. Prior to this event, was the vaccine exposed to temperatures outside of the recommended range? Yes or No
  6. Were water bottles in the refrigerator and ice packs in the freezer at the time of this event? Yes or No
  7. Use table on page 7 to fill in the vaccines affected by the event:

## LIST OF AFFECTED REFRIGERATED VACCINES

Vaccine, Manufacturer and lot #	Expiration Date	# of doses	# of affected vials	Action Taken

## AFFECTED VACCINE STORED IN THE FREEZER

Vaccine, Manufacturer and lot #	Expiration Date	# of doses	# of affected vials	Action Taken

For further information and help with getting information on vaccine viability, contact the Vermont Department of Health Immunization Program at 1-800-464-4343 ext. 7638. **DO NOT assume that vaccine cannot be salvaged!**

Manufacturers Phone numbers:

Sanofi Pasteur:	(800) 822-2463
Chiron Vaccines USA:	(800) 200-4278
GlaxoSmithKline:	(866) 475-8222
Merck & Co, Inc:	(800) 672-6372
Wyeth Vaccines:	(800) 999-9384
Med Immune, Inc:	(877) 358-6478

## VACCINE STORAGE AND HANDLING CHART

VACCINE	CONDITION ON ARRIVAL	STORAGE REQUIREMENTS	RECONSTITUTION	NOTES
<b>DTaP</b>	Not frozen	DO NOT FREEZE Refrigerate at 2 - 8 C/35 – 46 F	Shake vial well	Rotate stock
<b>HEPATITIS A AND B</b>	Not frozen	DO NOT FREEZE Refrigerate at 2 - 8 C/35 – 46 F	Shake vial well	Rotate stock
<b>HIB</b>	Not frozen	DO NOT FREEZE Refrigerate at 2 - 8 C/35 – 46 F	Reconstitute with diluent provided	Rotate stock
<b>INFLUENZA (inactivated)</b>	Not frozen	DO NOT FREEZE Refrigerate at 2 - 8 C/35 – 46 F	Shake vial well Discard if drawn up > 8 hours	Rotate stock
<b>IPV</b>	Not frozen	DO NOT FREEZE Refrigerate at 2 - 8 C/35 – 46 F	Vaccine should look clear	Rotate stock
<b>LAIV (live attenuated influenza vaccine)</b>	Not frozen	DO NOT FREEZE Refrigerate at 2 - 8 C/35 – 46 F	Remove rubber tip protector, give ½ dose into one nostril, remove clip and repeat into other nostril	Rotate stock
<b>MENINGITIS</b>	Not frozen	DO NOT FREEZE Refrigerate at 2 - 8 C/35 – 46 F PROTECT FROM LIGHT (Menactra)	Shake vial well	Rotate stock
<b>MMR</b>	Frozen or refrigerated	PROTECT FROM LIGHT Refrigerate at 2 - 8 C/35 – 46 F – May be frozen	Discard if not used within 8 hours of reconstitution PROTECT FROM LIGHT	Rotate stock
<b>PNEUMOCOCCAL</b>	Not frozen	DO NOT FREEZE Refrigerate at 2 - 8 C/35 – 46 F	Shake vial well	Rotate stock
<b>ROTAVIRUS</b>	Not frozen	DO NOT FREEZE Refrigerate at 2 - 8 C/35 – 46 F PROTECT FROM LIGHT	Administer orally	Rotate stock
<b>SHINGLES</b>	Frozen	MUST STAY FROZEN AT – 15 C OR COLDER	Use within 30 minutes of reconstitution	MUST STAY FROZEN
<b>Td DT</b>	Not frozen	DO NOT FREEZE Refrigerate at 2 - 8 C/35 – 46 F	Shake vial well	Rotate stock
<b>Tdap</b>	Not frozen	DO NOT FREEZE	Shake vial well	Rotate stock
<b>VARICELLA and MMRV</b>	Ship on dry ice only	MUST STAY FROZEN AT – 15 C OR COLDER PROTECT FROM LIGHT	Use within 30 minutes of reconstitution or discard PROTECT FROM LIGHT	MUST STAY FROZEN

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## EQUIPMENT

### REFRIGERATOR(S):

- A standard household style refrigerator is sufficient for storing vaccines.
- Vaccines should be stored in the center of the refrigerator.
- **THERE SHOULD BE NO VACCINE IN THE DOOR OR CRISPER BINS OF THE REFRIGERATOR!** Vaccine stored in the refrigerator door experiences temperature changes each time the door is opened.
- Open-weave, plastic storage baskets are fine for containing vaccines.
- MMR should be stored in the box that it came in because the vaccine is light sensitive.
- Diluent for Merck vaccines (MMR) can be stored in the refrigerator or at room temperature. Saline Hib diluent **must** be stored with the Hib vaccine in the refrigerator because the diluent and vaccine lot number must stay together.
- Food should **never** be stored in the refrigerator with vaccine.
- Place plastic bottles of water in the door. Remove the crisper bins in the refrigerator and replace with water bottles. Water bottles help maintain internal refrigerator temperatures.
- **“Do Not Disconnect”** signs/stickers should be posted on the refrigerator and on the circuit breaker. These signs/stickers are available from the Vermont Department of Health Immunization Program.

### FREEZER(S):

- Freezer temperatures **must** maintain 5 degrees F or colder or -15 C or colder.
- Ice packs in the freezer unit help maintain freezer temperature as the unit defrosts. Varicella vaccine **must** be off the freezer floor and surrounded with ice packs. The defrosting cycle can be as frequent as every 6 hours and as infrequent as every 24 hours. The freezer operates by heating the floor by several degrees to take the frost off the sides of the unit.
- Varicella vaccine should be stored in the box that it came in because the vaccine is light sensitive.
- Diluent for Merck vaccine (Varicella vaccine) can be stored at room temperature or in the refrigerator. It cannot be frozen.
- An indicator for freezer temperatures being unstable is to place a paper cup in the freezer with water and let it freeze. Once it is frozen, place a penny on top of the frozen water and check each day to see if the coin is moveable on the ice. If the coin is stuck on the ice, thawing has occurred since you last checked.

## **THERMOMETERS:**

- All refrigerators and freezers that house vaccine **must** have their own certified and calibrated thermometer.
- Thermometers **must** be placed in the middle of the unit-not touching the floor, walls or the sides of the unit.
- Call the Vermont Department of Health Immunization Program if you need a new or replacement thermometer(s).

## **Information about VDH Supplied Digital Thermometers**

- The thermometer checks the temperature of the fluid in the bottle, mimicking what is happening in the vaccine bottles.
- The VDH supplied thermometer will need to have it's MIN and MAX cleared once it is has been installed and reaches temperature ranges in the acceptable range. To do this, hit "MODE" and "MEMORY CLEAR" and then "MODE" again. You can now check MIN and MAX temperatures reached in the unit by hitting "MODE". It is recommended that this is cleared on a weekly basis.
- The alarm is a tool, but it cannot take the place of checking temperatures. If you chose to activate the alarm, put the alarm switch in the ON position. Whenever the current temperature rises above the HI setting or falls below the LO setting the alarm beeps (not very loudly) for one minute and then a three second beep sounds every minute thereafter for up to 12 hours.
- When the alarm rings- evaluate the situation. See "Temperatures Out of Range Flow Sheet" on the page 4.
  - If the temperature is too warm- has the door been opened frequently? If YES, shut the door and watch without any adjustment. Recheck in an hour.
  - If the temperature is too cold- check the placement of the thermometer. If the thermometer is near the cold air vent, move it to the center of the unit. You may need to readjust the temperature control of the refrigerator very slightly to warmer. The key here is to go slowly and watch. Don't adjust to the extreme end of the thermostat. One person should be responsible for adjusting and monitoring the effect of the adjustment.
  - The freezer might alarm if the freezer is in a defrost cycle. Check the unit again in one hour. If the twice a day temperatures are in range, but the alarm is a bother- shut it off.
- **After the alarm sounds:**
  - Move alarm button to OFF. Reset when the temperature reaches acceptable range (continued on next page).

- Hit “MODE” button to see what the minimum and maximum temperatures reached were. This information will help with the decision making about vaccine viability.
  - Hit “MEMORY CLEAR” to erase the MIN and MAX temperatures reached.
  - Erratic readings, a faint display or no display may all be indications of a low battery.
  - Replace with a fresh AA alkaline battery and reset the unit
- **Battery Change:**
- The unit needs to be reset after the battery has been changed.
    1. Use a pointed object such as a paperclip to push the reset button.
    2. Push the MODE button to display “HI-LO” use
    3. Set the HI and LO temperatures using the green buttons on the back of the unit.
      - a. Refrigerator: **min 2** and **max 8** degrees
      - b. Freezer: min -50 (there is no minimum for freezer vaccines) and max -15 degrees
- NOTE: Be aware that the negative temperature setting can make it appear as a range. If you HI and LO setting on your thermometer reads “2 -8”, the high is set at -8, rather than 8.

Call VDH Immunization Program with any questions about the VDH supplied thermometers or any other vaccine related questions:

(802) 863-7638 or 1-800-464-4343 ext. 7638