

Vaccine Storage and Handling

Supersedes: 03-22-10
Effective: 11-12-14

The purpose of this procedure is to ensure the safe storage and handling of vaccines in order to maintain optimum potency. Failure to adhere to recommended specifications for storage and handling can reduce vaccine potency, resulting in inadequate immune responses in the recipients and inadequate protection against disease.

The Department's Designated Infection Control Officer (DICO) serves as the Vaccine Manager and is responsible for the oversight of all vaccine storage and handling.

Vaccine Receipt

1. Upon arrival at Boston EMS, vaccines will immediately be counted and compared with the packing list and original order form making sure the order and delivery is correct, with all expiration dates and lot numbers matching.
2. The recipient will check the cold chain monitors to make sure the temperature stayed within appropriate range during transport.
3. If there are any concerns or inaccuracies with the vaccine order or cold chain monitors, the Vaccine Manager or designee will contact the MDPH Vaccine Management Unit at (617) 983-6828 for guidance. McKesson Specialty Customer Care at (877)-822-7746 can be contacted for cold chain monitor concerns.
4. Once an inventory is completed, the vaccine shall be immediately placed the refrigerator/freezer designated for vaccine storage only.

Vaccine Storage

1. All refrigerated vaccines must be stored within the temperature range of 2° C to 8° C, or 35° F to 46° F, in the refrigerator designated for vaccine storage only.
2. All refrigerators designated for vaccine storage will be set to maintain the proper temperature using a calibrated product temperature thermometer. The thermometer should be placed in a central area of the refrigerator unit adjacent to the vaccine.
3. The Vaccine Manager or designee will rotate stock ensuring that short-dated vaccine is used first. Ensure that private purchased vaccines can be differentiated from state-supplied vaccines.
4. Vaccines should be stored centrally in the refrigerator, not on the door, in bins or on the bottom of the storage unit, and sufficiently away from walls to allow for proper air circulation.
5. Bottles of water should be placed in the refrigerator, if space allows, in order to maintain the internal temperatures of the storage unit.

Temperature Monitoring

1. Refrigerator temperatures will be monitored and recorded at least twice daily on temperature logs attached to each unit, one time at the start of the workday and

one time at the end of the workday. Temperature logs must be maintained for at least 3 years.

2. The Vaccine Manager must review temperature logs at least once a week for completeness and any deviations from recommended temperature ranges.

Temperature Out of Range Alarm

1. The refrigerator designated for storing vaccine is equipped with a temperature alarm that is remotely monitored by ADT Security. The alarm will be activated if there is a power failure and/or the temperature in the refrigerator stays at 31° F or below or 50° F or above for 25 minutes.
2. During normal business hours (Monday-Friday from 08:00-16:00), ADT will first contact RTQI to notify that an alarm has activated. If there is no answer, or during non-business hours, ADT will contact Dispatch Operations. Upon notification that the vaccine refrigerator alarm has been activated, the Dispatch Operations Supervisor should notify the on-duty Shift Commander who will coordinate a response to check on the alarm activation.

Power Failure/Refrigerator Failure

1. A “Do Not Unplug” sign is posted next to the refrigerator power outlet. In the event of an extended building power failure or refrigerator failure, vaccines will be packed in insulated containers with cool packs and transported to Materials Management or another available refrigerator.
2. In the event the vaccines need to be removed, there is a cooler with cold packs stocked inside the Vaccine Manager’s office. All vaccines should be removed, including the inside portable thermometer (not probe) and placed together inside the cooler.
3. When a problem is discovered, the exposed vaccine must be maintained at proper temperature and marked “Do Not Use”. Vaccine Management Unit staff will determine if the vaccine is still viable for use.
4. All out of range temperatures require immediate reporting to the MDPH Vaccine Management Unit with actions and results of these actions documented on the temperature logs.

Transporting Vaccine

1. If vaccine transportation to another site is required, it is critical that the cold chain be maintained throughout the process to ensure the viability of the vaccine.
 - a. Place ice packs on bottom of Styrofoam container.
 - b. Place bubble wrap or foam wrap on top of ice packs (vaccine should NOT come in direct contact with ice packs.)
 - c. Place vaccine in container on top of the bubble/foam wrap.
 - d. Insert temperature monitors near the center of the vaccine.
 - e. Place more bubble wrap or foam wrap on top of vaccine.
 - f. Place more ice packs on top of bubble wrap.
 - g. Ensure vaccine is secure in the container and close and seal the lid.

- h. Clearly label the container “Vaccine- Refrigerate Immediately” and deliver vaccine to destination without delay.

Vaccine Returns

1. All vaccines that cannot be used due to expiration or exposure to unsafe temperatures must be reported to the Vaccine Management Unit and appropriately coded on a *Vaccine Return Form*. Opened multi-dose vials are the exception. Please dispose of those doses in your biohazard trash.
2. The Vaccine Manager will fax completed *Vaccine Return Request Form* to MDPH Vaccine Management Unit (617) 983-6924 for review. Once reviewed, the Vaccine Management Unit will fax back the approved form for shipping. A shipping label will be mailed within a week of approval.
3. Pack Vaccine in a McKesson shipping box, with the return form and return shipping label provided and the Vaccine Management Unit will arrange to have the non-viable vaccine picked up.