



## Resource Guide

Subject:	Freezer Thermometer Temperature
Facility Site Review Source:	Department of Health Care Services (DHCS) All Plan Letter 20-006, Site Reviews: Facility Site Review and Medical Record Review or any superseding APL
Relevant Law/Standard:	Vaccine Storage – Recommendations and Guidelines
Agency//Organization Source:	Centers for Disease Control and Prevention
Agency/Organization URL	<a href="https://www.cdc.gov/vaccines/hcp/admin/storage/index.html">https://www.cdc.gov/vaccines/hcp/admin/storage/index.html</a>

**Background:**

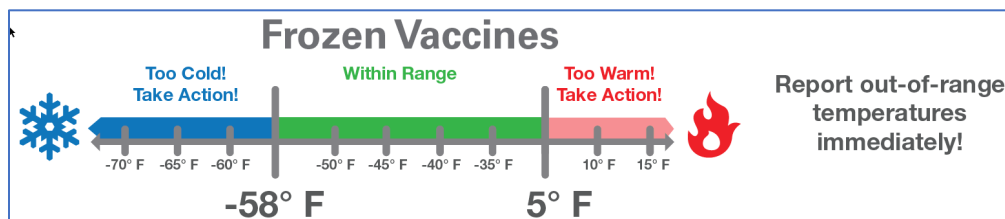
Varicella and MMRV vaccines are stored in the freezer at -15°C or 5°F, or lower, and are always protected from light.

- MMR may be stored in a refrigerator or freezer; VFC recommends MMR be stored in the freezer with MMRV.
- Never freeze vaccine diluents.

*Please refer to “Power Malfunction and Vaccine Management” for concerns regarding procedures during power outages.*

**Notes:**

- Don't use dormitory-style refrigerator/freezer.**
- Don't use combo refrigerator/freezer unit.**
- Don't put food in freezer.**
- Don't store vaccines on shelves in freezer door**



**Purpose:**

Proper vaccine storage and handling are important factors in preventing and eradicating many common vaccine preventable diseases. Yet, each year, storage and handling errors result in revaccination of many patients and significant financial loss due to wasted vaccines. Failure to store and handle vaccines properly can reduce vaccine potency, resulting in inadequate immune responses in patients and poor protection against disease. Patients can lose confidence in vaccines and providers if they require revaccination because the vaccines they received may have been compromised.

**Procedure:**

The characteristics of an appropriate **freezer storage system** includes:

- Maintain consistent temperatures between -58.0°F and 5.0°F (between -50.0°C and -15.0°C);
- Be either a stand-alone unit, or a pharmacy- or biologic-grade combination unit;

- Have sufficient capacity to store all the practice’s frozen vaccines, along with sufficient frozen cold packs to stabilize temperatures, e.g. room to store Varivax, ProQuad and MMRII without crowding
- Defrost automatically (manual is acceptable if the office has access to an alternate storage unit when defrosting the freezer; the alternate storage unit must be able to maintain recommended temperatures and be monitored using a VFC-compliant data logger; temporary storage of vaccines in a cooler is unacceptable);
- Seal tightly and close properly;
- Be used only for vaccine storage.
- Certified data logging max/min displaying thermometer accurate to +/-0.5°C

**Additional Information:**

Freezers can be much smaller. Since only Varivax containing vaccine must be stored in it, a 1.5 cu ft unit can hold enough vaccine for 3 or 4 pediatricians. Generally it works best to have a second cold spare unit so units can be manually defrosted. If you have a cold spare and you get tight for room, the second unit, if set up with its own certified thermometer, can serve as an overflow unit as well. MMR can be stored frozen and most pediatricians store it in the freezer. Since only two visits (12m and 4y) require Varivax and MMR, the freezer can be placed in a less busy area of the office. Again, in selecting a size, base your needs on your current storage ability or visit another practice to see what works for them. (Source: AAP Immunization Resources Storage and Handling Series Refrigerators, Freezers, and Vaccine Storage, [https://www.aap.org/en-us/Documents/immunization\\_vaccinestoragerf.pdf](https://www.aap.org/en-us/Documents/immunization_vaccinestoragerf.pdf) )

**Choosing the right sized unit**

Below are a few handy steps\* for determining the ideal refrigerator size for your clinic:

**1** Estimate the maximum number of doses of publicly-provided vaccine and privately purchased vaccine that will be in your refrigerator.

**Refrigerator:**

Add the number of doses *on hand (current inventory)* from your last order form.

Public vaccine			
Private vaccine	+		
Total doses	=		
Multiply (max inventory)		x 1.25	
<b>Maximum doses</b>	=		

**2** Match your maximum doses with the minimum cubic feet needed to safely store your vaccine.

Max. Doses	Minimum Cubic Ft.
2,000+ doses	may need more than one refrigerator
1000 – 2000	40 cu. ft.
900 – 1000	36 cu. ft.
801 - 900	21 - 23 cu. ft.
701 - 800	17 - 19.5 cu. ft.
400 – 700	11 - 16.7 cu. ft.
100 - 399	4.9 - 6.1 cu. ft.

**3** Using this refrigerator and freezer guide as a reference, search for a storage unit that’s properly sized and meets all VFC requirements. Whenever possible, choose biomedical-grade over household style units.

\*Thanks to California’s [eziz.org](http://eziz.org) for developing the original sizing guide above.

**Resources:**

Storage Best Practices for Frozen Vaccines – Fahrenheit (F)

<https://www.cdc.gov/vaccines/hcp/admin/storage/downloads/storage-frozen.pdf>

Vaccine Storage and Handling Toolkit

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

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