



SOUTH DAKOTA
DEPARTMENT OF HEALTH

Vaccine Storage and Handling

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26 September, 2023

Vaccine Storage and Handling tools/training

- <https://doh.sd.gov/topics/immunizations-vaccinations/>
- <https://www.train.org/sd/welcome>

Cold Chain

- Temperature controlled supply chain that includes all vaccine related equipment and procedures
- From Manufacturer to administration
- Correct temperature must be maintained all through the cold chain
- Vaccines exposed outside of appropriate temperatures can lose potency, be costly, mean extra doses for patients



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Staff/Training

- Staff who have any part in the cold chain should be trained
- Train:
 - New employee
 - Annually for all staff as a refresher
 - When new vaccines are added
 - When ever storage and handling recommendations are updated
 - Keep a record of training



Staff/Training

- Need a primary and backup vaccine coordinator
 - Ordering
 - Receipt of vaccine
 - Documenting inventory
 - Setting up temperature monitoring devices
 - Recording temperatures
 - Analyze temp data at least weekly
 - Rotate stock at least weekly
 - Remove expired vaccines from storage units
 - Responding to temperature excursions



Staff/Training

- Maintaining documentation
- Organizing training for staff
- Monitoring vaccine storage equipment and systems
- Overseeing vaccine transport as necessary
- Overseeing emergency preparations
 - Track inclement weather
 - Ensuring appropriate handling of vaccines during disaster/power outage
 - Keep an SOP



SOP

- General information—include contact information for vaccine manufacturers, equipment service providers, and important facility staff, as well as job descriptions, regularly used forms, and staff training requirements
- Routine storage and handling SOPs—include information for all aspects of vaccine inventory management, from ordering to monitoring storage conditions
- Emergency vaccine storage, handling, and transport SOPs—outline steps to be taken in the event of equipment malfunctions, power failures, natural disasters, or other emergencies that might compromise vaccine storage conditions



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Storage Units

- Purpose Built/Pharmaceutical Grade strongly preferred
- VFC - Household units using only the refrigerator is ok for now
 - 2024
- No dorm style units
- There are small units that are not dorm style
- Unit should be in a well-ventilated room with plenty of space for air circulation
- Mark circuit breaker and plug with a do not unplug sticker



pharmaceutical grade vaccine refrigerator



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Temperature Monitoring

- Use a calibrated digital data logger preferably with a buffered probe
 - Detachable buffered probe
 - Alarm for out of range temperatures
 - Low battery indicator
 - Current temp, minimum and maximum temperature
 - Accuracy of +/- 0.5 C
 - Logging interval of no longer than 30 minutes



Temperature Monitoring

- Certificate of Calibration
 - Contain model/device name or number
 - Serial number of device
 - Data of calibration
 - Confirmation the device passed testing
 - Calibration should be performed a minimum of every 3 years or sooner based on calibration expiration



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Temperature Monitoring

- The current temperature should be taken twice per day and the min max recorded for the previous 24 hours every morning
- Keep documentation for a minimum of three years



Temperature excursion

- Move vaccine to a temperature monitored unit that is functioning properly
- Label vaccine do not use
- If a VFC provider, contact the state and follow policy
- If non-VFC provider, follow you internal protocols.



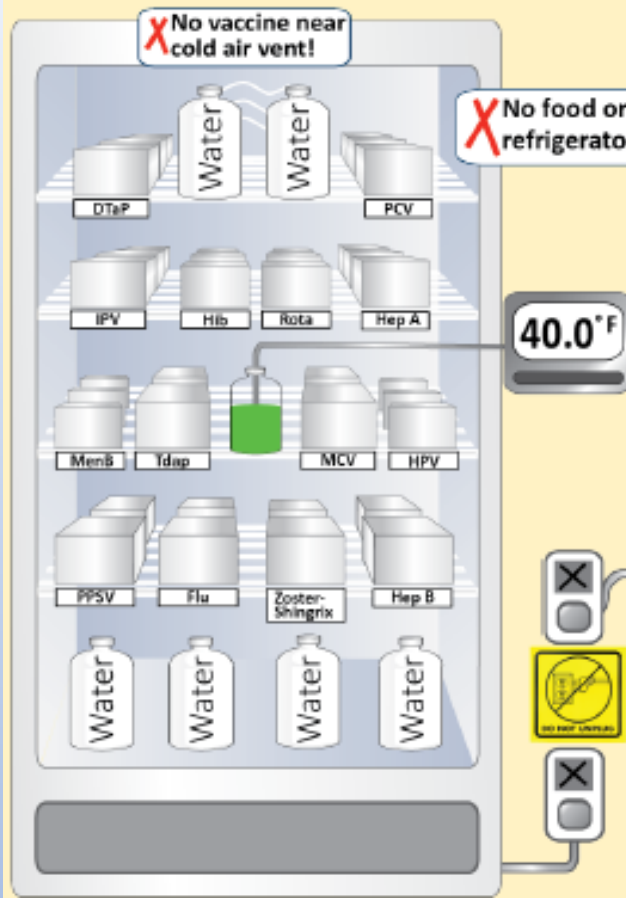
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How to store

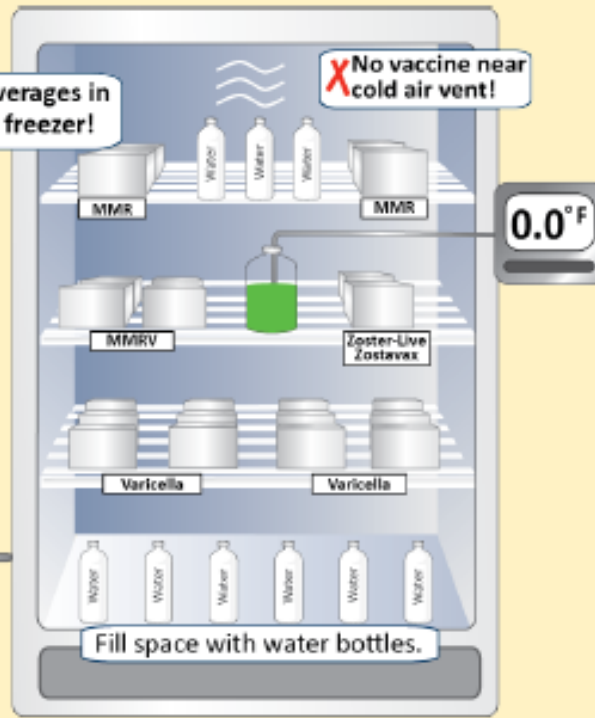
- No vaccine in doors or drawers or top or bottom shelves (good place for water bottles)
- Vaccines should be away from the walls
- Temperature probe should be in the middle of the unit



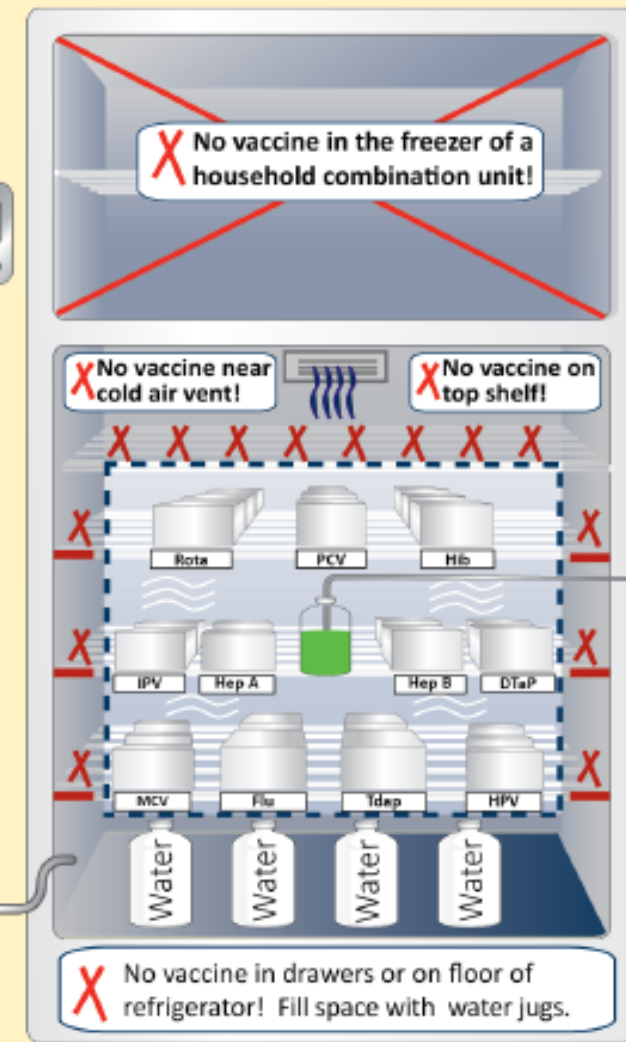
Refrigerator-only unit



Freezer-only unit



Combination refrigerator/freezer unit



Vaccine Storage Units, in order of preference:

1. Lab or pharmacy grade unit. (not pictured)
2. Stand alone household refrigerator and/or freezer unit.
3. Combination household refrigerator/freezer unit - using only the refrigerator.



Vaccine Transport

- Use a portable vaccine storage unit if possible
- If not possible, a qualified pack out, hard sided or Styrofoam cooler
- Use conditioned phase change materials or water bottles that are conditioned.
- Two layers of insulating materials
- Temperature monitoring-precondition
- Deliver directly to receiving facility. No more than eight hours. Place vaccines inside the cabin. Precondition vehicle in extreme temperatures.



Emergency Storage and Handling

- Be Prepared
- Have an alternative storage facility
- Things can happen outside of business hours
- Know where things are
 - Spare batteries
 - Flashlights
 - Keys
 - Locks
 - Circuit breakers
 - Emergency transport equipment and materials



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Emergency Storage and Handling

- What if I can't reach alternate storage facility
 - Use portable units or coolers, monitor the temp
 - If not possible keep vaccine in storage unit and monitor temp, don't open door – record initial temp and room temp-record min and max reached inside the unit during outage
 - If you cannot monitor the temp without opening the door, keep unit closed and record temp after power is restored.



Generators and Battery power

- A generator can prevent the need to transport during an power outage
 - Keep sufficient fuel – 72 hours or more
 - Test quarterly
 - Service annually
- Battery
 - Test quarterly
 - Service annually
 - Follow manufacturers guide for testing



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Expiration dates






- Vaccine can be used up to the last second of the expiration date
- 09/2023 vs 09/01/2023

Beyond-Use Dates (BUD)

- Different from expiration – always use earliest
- Reconstituted vaccines
- Multidose vials
- Manufacturer shortened expiration dates












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Pfizer			
	Infant/Toddler 6 months–4 years	Pediatric 5-11 years	Comirnaty 12+ years
			
	2023-24 Formula	2023-24 Formula	2023-24 Formula
Packaging	Yellow Cap	Blue Cap	Gray Cap
Doses Per Vial	3 doses	1 dose	1 dose
Carton Size	30 doses	10 doses	10 doses
NDC-Unit of Use (vial)	59267-4315-01	59267-4331-01	00069-2362-10
CVX Code	302	301	300
CPT Code	91318	91319	91320
Program Availability	VFC	VFC	VFC, BAP
Min. Standard Order*	30 doses	10 doses	10 doses
Storage Limits Before Puncture: Label vaccine with expiration and use-by dates.			
ULT	Until expiration date at -90°C to -60°C (-130°F to -76°F)		
Thermal Shipper			
Freezer			
Refrigerator	Up to 10 weeks at 2° to 8°C (36°F to 46°F). Write the date on carton—not to exceed expiration.		
Expiration Date	Check the label or Pfizer product website .		



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	Moderna			Novavax
	Pediatric 6 months- 11 years	Spikevax 12+ years	Spikevax 12+ years	Adol/Adult 12+ years
	 Green label	 Blue label		
	2023-24 Product	2023-24 Product	2023-24 Product	2021 Product (new product coming soon)
Packaging	Dark Blue Cap	Dark Blue Cap	Syringe	Royal Blue Cap
Doses Per Vial	1 dose	1 dose	1 dose	5 doses
Carton Size	10 doses	10 doses	10 doses	50 doses
NDC-Unit of Use (vial)	80777-0287-07	80777-0102-04	80777-0102-01	80631-0102-01
CVX Code	311	312	312	211
CPT Code	91321	91322	91322	91304
Program Availability	VFC	VFC, BAP	TBD	TBD
Min. Standard Order*	10 doses	10 doses	TBD	TBD
Storage Limits Before Puncture:	Label vaccine with expiration and use-by dates.			
ULT				
Thermal Shipper				
Freezer	Until expiration at -50°C to -15°C (-58°F to 5°F)			
Refrigerator	Up to 30 days (not to exceed expiration date) at 2-8°C (36-46°F)			Until expiration
Expiration Date	Check Moderna product website or QR code.			Check product website.



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Contact Information

- Tim.Heath@state.sd.us
- 605-773-3368
- <https://doh.sd.gov/topics/immunizations-vaccinations/>

