

IMMUNIZATION STORAGE AND HANDLING TABLE (Post on Your Storage Units)

It is important to follow proper storage and handling procedures. Failure to do so can reduce potency resulting in patients who are not fully protected from disease. This guidance will help ensure your immunizations are stored properly.

VACCINES and OTHER IMMUNIZING AGENTS	ARRIVAL CONDITION ³	STORAGE REQUIREMENTS
DTaP, DTaP-HepB-IPV (Pediatrix), DTaP-IPV-Hib-HepB (Vaxelis [®]), DTaP-IPV (Quadracel [®] , Kinrix), DTaP-IPV/Hib (Pentacel [®]) ¹ , Td, Tdap, HepA, HepB (Engerix-B, Recombivax HB [®] , Hepelisav-B [®]), HepA-HepB (Twinrix), Hib (PedvaxHIB [®] , ActHIB [®] ¹ , Hiberix ¹), 9vHPV, IPV, MenACWY (Menveo ^{1,2} , MenQuadfi [®]), MenB (Bexsero, Trumenba [®]), MenABCWY (Penbraya [®] , Penmenvy) ¹ , Pneumococcal (PCV15, PCV20, PCV21, PPSV23), aIIV3 (Fluad [®]), HD-IIV3 (Fluzone [®] High-Dose), IIV3, cIIIV3 (Flucelvax [®]), RIV3 (Flublok [®]), LAIV3, Recombinant Zoster Vaccine (RZV, Shingrix) ^{1,2} , Respiratory Syncytial Virus ([RSV], Abrysvo [®] , Arexvy) ¹	Packed with refrigerant. Vaccine should not have been frozen.	Refrigerate immediately upon arrival between 36.0°F and 46.0°F (2.0°C and 8.0°C). DO NOT FREEZE⁴ . Protect from light: Hib (Hiberix)¹, 9vHPV, IPV, MenACWY (Menveo)¹, MenB (Bexsero), aIIV3, IIV3, LAIV3, cIIIV3, RIV3, DTaP-IPV-Hib-HepB (Vaxelis), HepB (Recombivax HB), Pneumococcal (PCV15, PCV21), RZV (Shingrix)^{1,2}, and Arexvy¹, MenABCWY (Penmenvy)¹. MenB (Trumenba) syringes, Pneumococcal (PCV20) syringes, and MenABCWY (Penbraya) carton are recommended to lay flat on shelf to minimize re-dispersion time. Diluent: When packaged with vaccine, store together in the original box in the refrigerator. Never freeze diluent.
Rotavirus Vaccines (RV): RV1 (Rotarix) ^{1,2} RV5 (RotaTeq [®])	Packed with refrigerant. Vaccine should not have been frozen.	Rotateq (RV5) and Rotarix (RV1) Oral Dosing Applicator Only Presentation: Refrigerate immediately upon arrival between 36.0°F and 46.0°F (2.0°C and 8.0°C). DO NOT FREEZE⁴ . Rotarix (RV1) Vial and Oral Dosing Applicator Presentation: Refrigerate lyophilized vaccine component in vial immediately upon arrival between 36.0°F and 46.0°F (2.0°C and 8.0°C). Diluent in oral dosing applicator can be stored separately at room temperature or refrigerated between 36.0°F and 46.0°F (2.0°C and 8.0°C). ^{1,2} DO NOT FREEZE⁴ . Protect both RV vaccines from light.
Measles, Mumps, Rubella (MMR, M-M-R [®] II-Merck) ¹ Measles, Mumps, Rubella (MMR, Priorix-GSK) ¹	M-M-R II -vaccine may arrive frozen or refrigerated. Priorix -Packed with refrigerant. Vaccine should not have been frozen.	M-M-R[®] II: Refrigerate between 36.0°F and 46.0°F (2.0°C and 8.0°C) OR freeze between -58.0°F and +5.0°F (-50.0°C and -15.0°C) upon arrival. Priorix: Do not store in freezer⁴ . Refrigerate immediately upon arrival between 36.0°F and 46.0°F (2.0°C and 8.0°C). Diluent: Store separately at room temperature or refrigerate between 36.0°F and 46.0°F (2.0°C and 8.0°C). Never freeze diluent. Protect M-M-R II and Priorix from light.
Varicella (Varivax [®]) ¹ Measles, Mumps, Rubella, Varicella (MMRV, ProQuad [®]) ¹	Packed with non-reusable frozen gel packs. Vaccine should arrive frozen.	Maintain continuously in a frozen state at temperatures between -58.0°F and +5.0°F (-50.0°C and -15.0°C). Do not refreeze ⁴ . Diluent: Store separately at room temperature or refrigerate between 36.0°F and 46.0°F (2.0°C and 8.0°C). Protect Varicella, and MMRV from light.

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COMIRNATY® COVID-19 Vaccine ⁵	<p>Prefilled Syringes: Packed with refrigerant. Vaccine should not have been frozen.</p> <p>Single-Dose Vials (SDV) should arrive at either ultra cold* temperatures or refrigerated temperatures. If received between 36°F and 46°F (2°C and 8°C), should be stored between 36°F and 46°F (2°C and 8°C), should not be refrozen. Do not store vials in a standard freezer between -13°F and 5°F (-25°C and -15°C).</p> <p>*Ultra Cold vaccine shipment packed with dry ice requires special handling.⁵</p>	<p>Prefilled Syringes: Store between 36°F and 46°F (2°C and 8°C) until the expiration date. DO NOT FREEZE⁴. Prior to removing the tip cap, the total time out of refrigeration (at temp between 46°F and 77°F [8°C and 25°C]) must not exceed 12 hours.</p> <p>SDV's: Store between -130°F and -76°F (-90°C and -60°C) until the expiration date, OR between 36°F and 46°F (2°C and 8°C) for up to 10 weeks using a Beyond Use Date (BUD)⁶. Prior to first puncture, the total time out of refrigeration (at temp between 46°F and 77°F [8°C and 25°C]) must not exceed 12 hours. DO NOT REFREEZE ONCE THAWED.⁴</p> <p>Minimize exposure to room light, avoid direct sunlight and UV light.</p>
SPIKEVAX COVID-19 Vaccine	Vaccine supplied in single dose prefilled syringes and should arrive frozen between -58°F and 5°F (-50°C and -15°C).	<p>Store frozen between -58°F and 5°F (-50°C and -15°C) until the expiration date OR refrigerated between 36°F and 46°F (2°C and 8°C) for up to 60 days using a BUD⁶.</p> <p>DO NOT REFREEZE ONCE THAWED⁴ and Minimize exposure to room light, avoid direct sunlight and UV light.</p>
MNEXSPIKE COVID-19 Vaccine	Vaccine supplied in single dose prefilled syringes and should arrive frozen between -40°F to 5°F (-40°C to -15°C).	<p>Store frozen between -40°F to 5°F (-40°C to -15°C) until the expiration date OR refrigerated between 36°F and 46°F (2°C and 8°C) for up to 90 days using a BUD⁶.</p> <p>DO NOT REFREEZE ONCE THAWED⁴ and Minimize exposure to room light, avoid direct sunlight and UV light.</p>
Nuvaxovid COVID-19 Vaccine	Packed with refrigerant. Vaccine supplied in single dose prefilled syringes and should not have been frozen.	<p>Store refrigerated between 36°F and 46°F (2°C and 8°C) until expiration date.</p> <p>DO NOT FREEZE⁴ and Protect from light.</p>
mResvia® (RSV)	Packed with non-reusable frozen gel packs. Vaccine should arrive frozen.	<p>Store frozen between -40°F to 5°F (-40°C to -15°C). Prefilled syringes may be stored refrigerated between 36°F to 46°F (2°C to 8°C) for up to 90 days using a BUD⁶. The total time out of refrigeration (at temp between 46°F and 77°F [8°C and 25°C]) must not exceed 24 hours. Do not return syringes to the refrigerator after being thawed at room temperature. Do not shake.</p> <p>DO NOT REFREEZE ONCE THAWED⁴ and Minimize exposure to room light, avoid direct sunlight and UV light.</p>

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RSV Monoclonal Antibody (mAb) Immunizations: Nirsevimab (Beyfortus®) Clesrovimab (Enflonsia™)	Packed with refrigerant. Vaccine should not have been frozen.	Store between 36°F and 46°F (2°C and 8°C). Nirsevimab: Do not shake, DO NOT FREEZE⁴, Protect from light. Do not expose to heat. Clesrovimab: Do not shake, DO NOT FREEZE⁴, Protect from light.
Mpox (JYNNEOS®)	Vaccine should arrive frozen.	Store frozen between -13°F and 5°F (-25°C and -15°C) until the expiration date; may be stored between 36°F and 46°F (2°C and 8°C) for 4 weeks (certain lots for up to 8 weeks ⁷). DO NOT REFREEZE ONCE THAWED⁴ and Protect from light.

PLEASE NOTE: This reference is for storage and handling informational purposes only. These recommendations are not a substitute for the package insert included with each biologic.

- ¹ Use only the diluent that comes with the vaccine. For more information on vaccines that need to be reconstituted, refer to "[Vaccines with Diluents: How to Use Them](#)" at immunize.org.
- ² Rotarix, Shingrix, and Menveo vaccines are available as either a liquid formulation that does not require dilution or as a lyophilized vaccine that requires reconstitution.
- ³ If you have questions about the condition of the vaccine at the time of delivery, immediately place the vaccine in the recommended storage unit, label "DO NOT USE" and contact the manufacturer. If you have questions about the condition of Vaccines for Children (VFC) vaccine, contact your local health department.
- ⁴ If the vaccine has been frozen (refrigerated only vaccine) or refrozen after thawed, mark vaccine "DO NOT USE", store at manufacturer recommended temperature and contact the manufacturer to determine viability, unless the affected vaccine is VFC – in which case, contact the LHD for guidance.
- ⁵ For information on how to safely handle dry ice, refer to "[Dry Ice Safety for Healthcare Professionals \(cdc.gov\).](#)"
- ⁶ The [Beyond Use Date](#) (BUD) replaces the manufacturer's expiration date but **NEVER** extends it. Always use the earliest date. Do NOT use vaccine after the expiration date or BUD.
- ⁷ Only certain lots may be held at 36°F and 46°F (2°C and 8°C) for up to 8 weeks. To confirm that a given lot may be held at 36°F and 46°F (2°C and 8°C) for up to 8 weeks, please verify that the lot is listed on this web page: [Lots of JYNNEOS Authorized to Have an 8 Week Expiry](#). If the lot is not identified as being eligible for the 8 week hold time on this page, then the vaccine may only be kept at 36°F and 46°F (2°C and 8°C) for up to 4 weeks.

Proper vaccine storage and handling practices play a very important role in protecting individuals and communities from vaccine-preventable diseases. Vaccine quality is the shared responsibility of everyone, from the time vaccine is manufactured until it is administered.

- Check expiration dates weekly. Rotate stock so that soon-to-expire vaccine is used first.
- Never use expired vaccines or diluents. Once expired, remove from the unit immediately.
- Have a calibrated digital data logger (DDL) with current Certificate of Traceability and Calibration in each storage unit. Keep calibration up to date.
- Check the minimum and maximum temperature on both the refrigerator and freezer at the start of each workday. Also, check the current temperature on both the refrigerator and freezer when you arrive and before you leave for the day. Documentation of min/max and twice daily temperatures is a requirement for VFC providers.
- Vaccines should only be transported when absolutely necessary such as during an emergency. The Michigan Department of Health & Human Services (MDHHS), the Centers for Disease Control and Prevention (CDC), and Merck do not recommend transport of varicella-containing vaccine. For detailed guidance on transport, see "MDHHS Guidance on Vaccine Transport" under [Vaccine Storage and Handling](#).
- For further information on storage and handling of vaccines, refer to CDC's "[Vaccine Storage and Handling Toolkit](#)."