

INFORMATION PAPER

DHA-IHD
31 January 2023

SUBJECT: Cold Chain Management of Measles, Mumps, Rubella (M-M-R® II) Vaccine

1. Overview. The most critical element for the management of the measles, mumps, rubella (M-M-R® II) vaccine is appropriate storage and handling. The exposure to temperatures outside of the manufacturer's recommendations will result in the reduction of the M-M-R® II vaccine's effectiveness.
2. Background.
 - a. M-M-R® II is a live virus vaccine for vaccination against measles, mumps, and rubella (German measles). M-M-R® II vaccine is supplied as a box of 10 single-dose vials of lyophilized vaccine with a box of 10 diluent vials.
 - b. In order to maintain potency, per the manufacturer's package insert, the lyophilized (freeze-dried) M-M-R® II vaccine must be stored between -58°F and +46°F (-50°C to +8°C). The diluent may be stored in the refrigerator with the lyophilized vaccine or separately at room temperature. The diluent cannot be stored in the freezer.
 - c. The M-M-R® II vaccine has no loss of potency when exposed to freezing temperatures; but when exposed to temperatures above 8°C, even for a short period of time, the vaccine rapidly loses potency.
 - d. The National Center for Immunization and Respiratory Diseases recommends keeping M-M-R® II in the freezer along with ProQuad® (MMRV), if adequate space is available. Storing in the freezer will potentially protect the vaccine during temperature excursions and it may reduce the risk of inadvertent storage of ProQuad® (MMRV) in the refrigerator instead of the freezer.
3. Key point. Unlike most vaccines there is no loss of potency when M-M-R® II is exposed to freezing temperatures. The manufacturer recommends freezer storage as an option for M-M-R® II vaccine.
4. Recommendations. IHD recommends the routine storage of M-M-R® II vaccine in the freezer whenever possible to minimize M-M-R® II vaccine loss during refrigerator high temperature excursions. When M-M-R® II is stored in the freezer, its diluent must be stored separately in a refrigerator or at room temperature, and care must be taken to use the correct diluent during reconstitution. Note: This recommendation does NOT pertain to the Priorix® MMR vaccine manufactured by GlaxoSmithKline, which should be stored in the

refrigerator at 2°C-8°C/36°F-46°F. DO NOT store Priorix® MMR vaccine in the freezer.

5. References.

- a. Centers for Disease Control and Prevention. Epidemiology and Prevention of Vaccine- Preventable Diseases. Hamborsky, J., Kroger, A., Wolfe, S., eds. 14th ed. Washington D.C. Public Health Foundation, 2021.
- b. Centers for Disease Control and Prevention, Vaccine Storage and Handling Toolkit. April 2022.

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