

## INFORMATION PAPER

DHA-IHD  
14 May 2019

SUBJECT: Cold Chain Management of Measles, Mumps, Rubella 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.

5. References.

- a. Centers for Disease Control and Prevention. Epidemiology and Prevention of Vaccine- Preventable Diseases. Hamborsky, J., Kroger, A., Wolfe, S., eds. 13th ed. Washington D.C. Public Health Foundation, 2015.
- b. Centers for Disease Control and Prevention, Vaccine Storage and Handling Toolkit. January 2019.

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