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.


Vaccine Policy and Program Development Office
Approved: Deputy Chief, Immunization Healthcare Division
877-438-8222 (DSN 761-4245)