

## MEASLES, MUMPS, RUBELLA VACCINE (MMR)

**GENERAL INFORMATION** – MMR is a live virus vaccine that is administered subcutaneously. MMR vaccine may be stored in the refrigerator or freezer and should be used within 8 hours of reconstitution.

**Contraindications and Precautions**, include the following:

Severe allergic (e.g., anaphylaxis) reaction to vaccine component, such as gelatin or neomycin, or to a previous dose of MMR vaccine (Refer)

Moderate to severe acute illness (wait until resolving)

Pregnancy (if known, testing is not required before vaccinating)

Known severe immunodeficiency (e.g., from hematologic or solid tumors; receiving chemotherapy; congenital immunodeficiency; or, patients with HIV and severe immunocompromise) (Refer)

Patients currently on long term immune suppression therapy: has had  $\geq 14$  days of  $\geq 2$  mg/kg/day (or,  $\geq 20$  mg/day) of prednisone, or equivalent. (Defer vaccination until high dose therapy has been stopped for 1 month).

Recent (within 11 months) antibody-containing blood product (specific interval depends upon the blood product – see CDC’s General Recommendations on Immunization for details)

Need for tuberculin skin testing (if MMR is not given on same day as TST, then delay TST 4 weeks after vaccination with MMR)

History of thrombocytopenic purpura or thrombocytopenia (low platelet count) (Refer)

**Note:** The following are NOT contraindications or precautions to MMR vaccination: egg allergy; breast feeding or pregnant household contact; low dose, short course or inhaled corticosteroid use.

### **Adverse events**

Common: Susceptible recipients may develop the following mild symptoms caused by measles vaccine virus replication 5 to 12 days after immunization:

1-2 days of fever of 103°F or higher (5-15%)

rash (5%)

Joint symptoms (pain or inflammation) with onset 1-3 weeks after vaccination and lasting up to 3 weeks (up to 25% of adult females, uncommon in children and males)

Rare:

severe allergic reaction (e.g., anaphylaxis)

pain in arms and legs 1-3 weeks after vaccination

thrombocytopenia

parotitis

deafness

encephalopathy

### **ACIP Recommended Populations**

§ All children (2 doses)

Adults born after 1957 (at least 1 dose if no acceptable history of disease), with emphasis on certain groups at higher risk of infection or complication:

§ Women of childbearing age (who have never had MMR or who lack serologic evidence of immunity)

§ Unvaccinated HIV patients without evidence of severe immunocompromise

§ College students (2 doses required by state law for full time students in TN)

International travelers (total of 2 doses, § federal vaccine only for ages 6 months through 18 years)

Healthcare workers (2 doses or evidence of immunity)

§ Vaccinate susceptible persons age 6 months and up within  $\leq 72$  hours of exposure to measles

§ **Federally funded vaccine may be used for these groups**

#### **Administration** of Vaccine:

Give first dose at 12-15 months of age

Give second dose at 4-6 years\* (recommended if born after 1957)

MMR vaccine may be given simultaneously with all other vaccines; if MMR and varicella (or another live virus vaccine) are not administered at the same visit, they should be separated by at least 28 days

For children traveling outside the United States:

6-11 months: 1 MMR before travel (because it gives less than ideal protection, this extra dose does not count toward the 2 dose routine MMR series).

12 months or up: should get 2 doses of MMR before travel (28 days apart, minimum interval). Two doses after 12 months of age completes the MMR series.\*

Vaccine is not needed if patient has laboratory evidence of immunity to all three (measles, mumps and rubella). However, if any is negative, documentation of 2 MMR doses is needed.

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\*The 2<sup>nd</sup> dose of MMR is recommended routinely at 4-6 yrs of age but may be administered during any visit, provided at least 1 month has elapsed since receipt of the 1<sup>st</sup> dose and that both doses are administered beginning at or after 12 months of age.

## **PLAN**

Have patient or accompanying adult read Vaccine Information Statement  
Counsel regarding benefits, side effects, and management  
Counsel females of childbearing age to avoid pregnancy for 28 days post vaccination (document LMP)  
Administer unit dose of MMR subcutaneously  
Advise to wait in clinic 20 minutes after injection  
Record manufacturer and lot number of the vaccine administered, date, name, address, and title of person administering vaccine (National Childhood Vaccine Injury Act)  
Instruct patient to contact Health Department if adverse reaction occurs

**NOTE:** Any dose of MMR vaccine given earlier than 4 days before the 1<sup>st</sup> birthday will not count as one of the routine two-dose series; persons who have not received 2 doses of measles mumps and rubella-containing vaccines, such as those who received only a monovalent measles vaccine or combined Measles/Rubella (MR) vaccine should complete a 2 dose series of MMR.

### **Referral indicators (in addition to contraindications or precautions listed above):**

Uncontrolled neurological conditions, such as uncontrolled seizures  
Active untreated tuberculosis

### **Follow-Up:**

If severe reaction is reported as occurring within 30 days following vaccine administered by health department personnel, VAERS Report form must be completed.  
Return at appropriate interval according to schedule

## **REFERENCES**

Manufacturer Packet Inserts.  
National Childhood Vaccine Injury Act, 1986.  
Epidemiology and Prevention of Vaccine-Preventable Diseases. Department of Health and Human Services, Centers for Disease Control and Prevention, 12<sup>th</sup> Ed., May 2011.  
“Federally-Funded Vaccines for Adults” memo from Dr. Kelly Moore, rev. October 5, 2010.