MDHHS Measles Guidance

Use of Vaccine and Immune Globulin

Routine Recommendations

Measles, Mumps, Rubella (MMR) Vaccine Recommendations	
Age/Status	**Schedule**
Under 12 **months** of age	MMR is not routinely recommended for children under 12 months of age (see outbreak & international travel recommendations below)
12 months through 6 years	Give dose one at age 12-15 months and dose two at 4-6 years* (providers should evaluate a child's risk of exposure to a community outbreak and use their clinical discretion to determine if a second dose of MMR should be given earlier than 4 years of age)
7 through 18 years	Unvaccinated children and adolescents: two doses at least 4 weeks apart*
Adults	Adults aged 19 years and older **who do not have acceptable presumptive evidence of immunity**** against measles should receive one (if low-risk) or two (if high-risk) doses of MMR vaccine* Adults who previously received a dose of measles vaccine in 1963-1967 and are unsure which type of vaccine it was, or are sure it was inactivated measles vaccine, should be revaccinated with either one (if low-risk) or two (if high-risk) doses of MMR vaccine* High-risk adults include: • Adults born in 1957 or later who are healthcare personnel, international travelers, students in postsecondary educational institutions, and household or close personal contacts of immunocompromised persons. • People with HIV infection who do not have presumptive evidence of immunity **or** evidence of severe immunosuppression. • Healthcare personnel born before 1957 should be considered for MMR vaccination in the absence of an outbreak but are recommended for MMR vaccination during outbreaks.

* The minimum interval between 2 doses of MMR is 4 weeks.

**Acceptable presumptive evidence of immunity includes:

- Documentation of age-appropriate measles-containing vaccine for persons who are not severely immunocompromised (for definition of severe immunosuppression, see page 3); or
- Laboratory evidence of immunity (*Note:* equivocal lab results should be considered negative); or
- Laboratory confirmation of disease; or
- Born before 1957 (except healthcare personnel).

Outbreak Recommendations

- During measles outbreaks, a second MMR dose, at least 4 weeks after the first dose, should be considered for children aged 1-4 years or for adults who have received one dose.
- During measles outbreaks, infants 6 through 11 months of age who are at high risk of exposure, should be considered for one MMR dose.
- These situations are at the discretion of the healthcare provider.

Post-Exposure Prophylaxis (PEP) Recommendations

PEP is only recommended for those **without** evidence of immunity (i.e., susceptible). PEP may provide some protection or modify the clinical course of disease. There are two types of PEP for measles:

- MMR vaccine within 72 hours of initial measles exposure, and
- Immune Globulin (IG) if administered within six days of exposure.

Recommended Dose and Timing of Measles PEP		
Risk Factor	**Time from First Exposure**	
	Less than 72 Hours	**72 Hours Through Day 6**
Infant less than 6 months old	Give IGIM: 0.5 mL/kg	Give IGIM: 0.5 mL/kg
Infant 6 through 11 months	Give MMR or give IGIM: 0.5 mL/kg	Give IGIM: 0.5 mL/kg
Susceptible pregnant women	Give IGIV: 400 mg/kg	Give IGIV: 400 mg/kg
Severely immunocompromised (regardless of vaccine status)	Give IGIV: 400 mg/kg	Give IGIV: 400 mg/kg
Susceptible contact aged 1 year or older weighing 30 kg or less	Give MMR if no contraindications. Consider MMR for children 1-4 years if 4-week minimum interval after dose one is met.	May consider IGIM: 0.5 mL/kg
Susceptible contact aged 1 year or older weighing more than 30 kg	Give MMR if no contraindications. Consider MMR for children 1-4 years if 4-week minimum interval after dose one is met	May consider IG at discretion of provider. *Note:* for IGIM, persons weighing more than 30 kg will receive less than the recommended dose and will have lower titers than recommended.

Note: The maximum dose of IGIM for all persons is 15 mL. The suggested volumes for a single IGIM injection site are as follows (infants and toddlers would fall at the lower end of these ranges, adolescents and adults generally fall on the higher end):

- Deltoid: range 0.5 – 2 mL
- Anterolateral thigh: range 1 – 5 mL

Prioritize people at high risk for severe illness and complications from measles to receive IG. This includes:

- Infants less than 12 months.
- Pregnant women without evidence of measles immunity.
- Severely immunocompromised persons (regardless of previous measles vaccination status).

Intramuscular IG (IGIM) can be administered to other persons who do not have evidence of measles immunity, but priority should be given to persons exposed in settings with intense, prolonged, close contact (e.g., household, daycare, and classroom)

Persons do not need IG if:

- They have already received or are currently receiving intravenous IG (IGIV) therapy at a dose of at least 400 mg/kg within 3 weeks before measles exposure; or
- They received subcutaneous IG at a dose of at least 200 mg/kg for 2 consecutive weeks before measles exposure.
- They received 1 or more doses of measles-containing vaccine at age 12 months or older, unless they are severely immunocompromised.

Healthcare personnel without evidence of immunity who have been exposed to measles should receive PEP.

Intervals Between MMR Vaccine and IG

- Do not administer MMR vaccine and IG simultaneously, as the IG invalidates the vaccine.
- Any susceptible person exposed to measles who received IG should subsequently receive MMR vaccine, provided the person is then aged 12 months or older and the vaccine is not otherwise contraindicated.
  - Give MMR no earlier than 6 months after IGIM administration.
  - Give MMR no earlier than 8 months after IGIV administration.
- If IG is administered within 2 weeks following MMR (or varicella) vaccine, the individual should be revaccinated. See above bullet for minimum intervals between IG and MMR.

Immunocompromised Persons

- Severely immunocompromised persons who are exposed to measles should receive IGIV prophylaxis regardless of immunologic or vaccination status. This includes:
  - Patients with severe primary immunodeficiency.
  - Patients who received a bone marrow transplant until at least 12 months after finishing all immunosuppressive treatment, or longer in patients with graft-versus-host disease.
  - Patients on treatment for acute lymphocytic leukemia (ALL) within and until at least 6 months after completing immunosuppressive chemotherapy.
  - Patients with a diagnosis of AIDS of HIV-infected persons with severe immunosuppression defined as CD4 percent <15% (all ages) or CD4 count <200 lymphocytes/mm3 (aged >5 years) and those who have not received MMR vaccine since receiving effective antiretroviral therapy (ART).

International Travel Recommendations

Recommendations for International Travelers	
Age/Status	**Schedule**
Under 12 months of age	Infants aged 6 through 11 months traveling internationally should receive one dose of MMR before departure • Revaccinate with the routine two-dose series beginning at 12 months (ensure 4-week minimum interval between MMR doses is met)
12 months and older	Persons 12 months of age and older should receive two doses of MMR separated by at least 4 weeks before departure

Resources

"Prevention of Measles, Rubella, Congenital Rubella Syndrome, and Mumps, 2013: Summary Recommendations of the Advisory Committee on Immunization Practices (ACIP)"

General Best Practices for Immunization | Vaccines & Immunizations | CDC

"Epidemiology and Prevention of Vaccine-Preventable Diseases," The Pink Book, 14th edition

"Immunization of Health-Care Personnel: Recommendations of the (ACIP)"

Manual for the Surveillance of Vaccine-Preventable Diseases for Public Health | CDC

Immunization Action Coalition, "Ask the Experts: Administering Vaccines"

Immunization Action Coalition, "Ask the Experts: MMR Vaccine"

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