A Quick Look at Using Measles, Mumps, Rubella (MMR) Vaccine

Indications for Use and Schedule for Persons Without Evidence of Immunity

- 2-dose series for children age 12 months – 18 years
  - Routinely given at age 12-15 months and 4-6 years
  - Minimum age for routine use is 12 months
- 1 dose for adults born in 1957 or later
  - High-risk adults should receive 2 doses: healthcare personnel (HCP), international travelers, students attending postsecondary education institutions, and household or close personal contacts of immunocompromised persons with no evidence of immunity to measles, mumps, or rubella
  - Non-high-risk adults may receive a 2nd dose
- Infants aged 6-11 months traveling internationally should receive 1 dose of MMR before departure, dose does not count toward routine 2-dose series
- Minimum interval between MMR doses is 4 weeks
- “Live/Live Vaccine Rule”
  - Live vaccines (i.e., MMR, Varicella, LAIV, ZVL) must be given on the same day or separated by 4 weeks
  - If minimum interval not met, vaccine(s) given last must be repeated in 4 weeks

Vaccine Administration

- Administer subcutaneous (SC) in the upper outer triceps area or the fatty tissue over the anterolateral thigh at a 45° angle
- 5/8-inch needle; 23-25 gauge
- Can be given with other vaccines at the same visit
  - Use separate sites, space at least 1-inch apart

Storage and Handling

- May store vaccine in either refrigerator or freezer
  - Refrigerator at 36°F to 46°F (2°C to 8°C)
  - Freezer at -58°F to +5°F (-50°C to -15°C)
- Store diluent at room temperature or in the refrigerator; do not freeze diluent
- Pharmaceutical-grade (purpose-built) units are preferred for vaccine storage
- Keep in the original box and protect from light
- Reconstitute using only the Merck diluent

Evidence of Immunity

- Documentation of age-appropriate vaccination (refer to schedule above)
- Persons born before 1957 (unless pregnant or HCP, refer to “Further Points”)
- Lab evidence of immunity to measles, mumps, and rubella
- Lab confirmation of measles, mumps, and rubella diseases

Contraindications

- Anaphylactic reaction to a prior dose of MMR, a component of MMR vaccine (including gelatin and neomycin), or to single-antigen measles, mumps, or rubella vaccine
- Pregnant or planning to become pregnant in the next 4 weeks
- Severe immunosuppression due to either disease or therapy (e.g., chemotherapy, certain medications)
- Family history of congenital or hereditary immunodeficiency in first-degree relatives (e.g., parents and siblings), unless the immune competence of the potential vaccine recipient has been substantiated clinically or verified by a laboratory

Precautions

- Moderate or severe illness with or without fever
- History of thrombocytopenia or thrombocytopenic purpura
- Receipt of blood or blood product within the last year (interval varies by type of blood product administered); for more information, see www.cdc.gov/vaccines/pubs/pinkbook/index.html (Appendix A) and General Best Practice Guidelines for Immunization (Timing and Spacing of Immunobiologics) at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/timing.html
- Need for tuberculin skin testing or interferon-gamma release assay (IGRA) testing (see Further Points)
Publicly purchased MMR vaccine can be administered to eligible children 12 months through 18 years of age through the Vaccines for Children (VFC) Program. Eligible children include those who are uninsured, underinsured, Medicaid eligible, Native American, or Alaskan Natives. Contact your local health department for more information.

MMR is also available through the Michigan Adult Vaccine Replacement Program (MI-VRP) and through Adult Medicaid. For persons covered by Adult Medicaid, private stock should be used and billed to Medicaid.

For additional information: MMWRs: “Prevention of Measles, Rubella, Congenital Rubella Syndrome, and Mumps, 2013: Summary Recommendations of the ACIP” (June 14, 2013) and “Recommendation of the ACIP for Use of a Third Dose of Mumps Virus-Containing Vaccine in Persons at Increased Risk for Mumps During an Outbreak” (January 12, 2018) at www.cdc.gov/vaccines.