

A Quick Look at Using Measles, Mumps, Rubella, Varicella Vaccine (MMRV; ProQuad®)

Indications for Use and Schedule

- For children aged 12 months through 12 years without evidence of immunity to measles, mumps, rubella, and varicella
- 2-dose series given at ages 12-15 months and 4-6 years
- Minimum age for 1st dose is 12 months; not indicated for use in ages 13 years and older
- Minimum interval between doses is 12 weeks
- Due to increased risk of fever and febrile seizures after 1st dose of MMRV in children aged 12 months through 4 years, the Advisory Committee on Immunization Practices (ACIP) has made further recommendations (see “ACIP Recommendations” below)
- Can be given at the same visit as other live/inactivated vaccines; if not given simultaneously follow these intervals:
 - Any time before/after inactivated vaccines
 - At least 4 weeks before/after MMR, LAIV, or other injectable live non-varicella containing vaccines
 - At least 3 months before/after single-antigen Varicella

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

- **Only** store vaccine in the **freezer** unit at **-58°F to +5°F (-50°C to -15°C)**
- Store diluent at room temperature (68°F to 77°F, 20°C to 25°C) or in the refrigerator (36°F to 46°F, 2°C to 8°C); **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
- Administer within 30 minutes of reconstituting
- If transport is necessary, use portable freezer unit

ACIP RECOMMENDATIONS

- For the 1st dose of measles, mumps, rubella (MMR) and varicella (Var) vaccines recommended at ages 12 through 47 months:
 - Either MMR & Var (2 separate injections) or MMRV (1 injection) may be given
 - When considering MMRV for the 1st dose at ages 12 through 47 months:
 - Providers **should** discuss risks and benefits of both vaccine options with the parent/guardian
 - Unless parent/guardian expresses preference for MMRV, give **separate** MMR & Var vaccines for the 1st dose
- MMRV is generally **preferred** over separate MMR & Var vaccines **only** in these situations:
 - For the 1st dose of MMR & Var if the child is aged 4 through 12 years
 - For the 2nd dose of MMR & Var if the child is aged 15 months through 12 years
- Refer to these handouts for more information, including a summary on risks:
 - For parents: “There are two options for protecting your child against measles, mumps, rubella, and varicella. Know the facts before you choose.” www.cdc.gov/vaccines/vpd/mmr/public/vacopt-factsheet-parent.pdf
 - For providers: “MMR & Varicella Vaccines or MMRV Vaccine? Discussing the Options with Parents” www.cdc.gov/vaccines/vpd/mmr/hcp/vacopt-factsheet-hcp.pdf

MEASLES, MUMPS, RUBELLA, & VARICELLA EVIDENCE OF IMMUNITY FOR CHILDREN LESS THAN AGE 13 YEARS

- Refer to “A Quick Look at Using MMR Vaccine” and “A Quick Look at Using Varicella Vaccine” at www.michigan.gov/immunize (Health Care Professionals/Providers, Provider Education Resources, Quick Looks & Other Resources)

CONTRAINDICATIONS

- Anaphylactic reaction to a prior dose of measles-, mumps-, rubella-, or varicella-containing vaccine or to a component of MMR or Varicella vaccine (including gelatin and neomycin)
- Pregnant or planning to become pregnant in the next 4 weeks
- Severe immunosuppression due to either disease or therapy (e.g., chemotherapy, certain medications)
- Infection with HIV
- 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
- Personal or family (i.e., sibling or parent) history of seizures of any etiology
 - Children with personal or family history of seizures generally should receive separate MMR & Varicella vaccines
- 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)
- Children who receive MMRV should avoid the use of salicylates (aspirin) or salicylate-containing products for 6 weeks after vaccination
- Receipt of specific antivirals (i.e., acyclovir, famciclovir, or valacyclovir) 24 hours before vaccination; avoid use of these antiviral drugs for 14 days after vaccination

FURTHER POINTS

- TB skin testing (TST): may give MMRV and TST on same day and read TST 48-72 hours later
 - If MMRV is given first (i.e., not on the same day TST is placed), wait at least 4 weeks before administering TST (ensures TST is not affected by vaccine)
 - If TST is done first (i.e., not on the same day MMRV is given), delay vaccination until the TST is read
- Document as “MMRV” in MCIR, on the vaccine administration record, and on the immunization record card (under Measles-Mumps-Rubella and Varicella)

Publicly purchased MMRV vaccine can be administered to eligible children 12 months through 12 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.

For additional information, refer to the MMWR: “Use of Combination Measles, Mumps, Rubella, and Varicella Vaccine: Recommendations of the ACIP” (May 7, 2010) at www.cdc.gov/vaccines.