

**IMMUNOBIOLOGICS**

IMMUNOBIOLOGIC	PRIMARY IMMUNIZATION SCHEDULE	BOOSTER SCHEDULE	COMMENTS AND CONTRAINDICATIONS
<p>Measles, Mumps and Rubella Virus Vaccine, Live (MMR)</p> <p><b>MMR II®</b> Merck</p>	<p><b>Persons 12 months through 18 years:</b></p> <p>First: 0.5 mL Subcutaneous (SC) Second: 0.5 mL SC at age 4-6 years and/or at least 4 weeks after the first dose</p> <p><b>Persons 19 years of age and over<sup>1</sup>:</b></p> <p>First: 0.5 mL SC* Second<sup>1</sup>: 0.5 mL SC at least 4 weeks after the first dose</p> <p><sup>1</sup> A second dose is recommended for adults entering college or other post high school educational institutions, international travelers, health care workers born in 1957 or later, and should be considered for and is recommended for unvaccinated healthcare personnel born before 1957 who lack laboratory evidence of measles immunity or laboratory confirmation of disease during an outbreak of measles or mumps.</p> <p>To reconstitute the vaccine: Withdraw the entire contents of the diluent vial into a syringe. Inject all of the diluent in the syringe into the vial of lyophilized vaccine and gently agitate to mix thoroughly. Withdraw the entire contents into a syringe and inject the total volume of reconstituted vaccine subcutaneously (SC).</p>	<p>Not established.</p>	<p><b>Merck no longer distributes the individual components of the combined measles-mumps-rubella (MMR) vaccine.</b> ACIP "generally" recommends that MMR vaccine be used whenever any of its component vaccines is indicated.</p> <p>For children 12 months through 12 years of age who also need immunization against varicella, the measles-mumps-rubella-varicella vaccine (MMRV) can be considered; see MMRV.</p> <p><b>Measles, Mumps, and Rubella Vaccination Indications:</b></p> <ul style="list-style-type: none"> <li>• Two doses of MMR vaccine are routinely recommended for all children 12 months of age and older. The first dose is recommended at age 12-15 months and the second dose is routinely recommended at age 4-6 years. A dose of MMR administered before the first birthday should not be counted as a valid dose. The second dose may be administered at any time after the first birthday as long as it is separated from the first dose by at least 4 weeks.</li> <li>• Adults born during or after 1957 should have documentation of at least one dose of MMR administered on or after the first birthday or other evidence of measles, mumps and rubella immunity. Certain groups at increased risk of measles or mumps exposure should have 2 doses, including persons attending colleges and other post-high school educational institutions, persons working in medical facilities, and international travelers</li> <li>• Birth before 1957 generally can be considered acceptable evidence of immunity to measles, mumps, and rubella (except for women who might become pregnant). However, for healthcare personnel:             <ul style="list-style-type: none"> <li>○ <u>consider</u> vaccinating unvaccinated personnel born before 1957 who lack laboratory evidence of measles, mumps and/or rubella immunity or laboratory confirmation of disease with two doses of MMR vaccine at the appropriate interval (for measles and mumps) and one dose of MMR vaccine (for rubella), respectively.</li> <li>○ <u>recommend</u> two doses of MMR during a <b>measles or mumps outbreak</b> for all unvaccinated personnel born before 1957 who lack laboratory evidence of immunity or laboratory confirmation of disease; during a <b>rubella outbreak</b> recommend one dose of MMR vaccine to all unvaccinated personnel born before 1957 who lack laboratory evidence of immunity or laboratory confirmation of disease.</li> </ul> </li> </ul> <p><b>Measles Revaccination Recommendations:</b> The following groups should be considered unvaccinated and should receive MMR vaccine according to the above recommendations:</p> <ul style="list-style-type: none"> <li>• Persons vaccinated before the first birthday,</li> <li>• Persons vaccinated with killed measles vaccine (KMV),</li> <li>• Persons vaccinated with KMV followed by live vaccine less than 4 months after the last dose of KMV,</li> <li>• Persons vaccinated before 1968 with an unknown type of vaccine (the vaccine may have been KMV), or</li> <li>• Persons vaccinated with IG in addition to a further attenuated strain or vaccine of unknown type. (Revaccination is not necessary if IG was given with Edmonston B vaccine.)</li> </ul> <p><b>Post-exposure Vaccination:</b></p> <ul style="list-style-type: none"> <li>• <b>Measles:</b> Live measles-containing vaccine (MMR) may prevent disease if given within 72 hours of exposure.</li> </ul>

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<p>Measles, Mumps and Rubella Virus Vaccine, Live (MMR) (cont.)</p>		<ul style="list-style-type: none"> <li>• <b>Mumps:</b> There is no conclusive evidence that vaccination of individuals recently exposed to natural mumps will provide protection.</li> <li>• <b>Rubella:</b> Neither rubella-containing vaccine nor immune globulin is effective for postexposure prophylaxis of rubella.</li> </ul> <p><b>Tuberculin tests:</b> Measles-containing vaccines can interfere with the response to a tuberculin test. Tuberculin testing, if otherwise indicated, can be done on either the same day that a measles-containing vaccine is administered or 4-6 weeks later.</p> <p><b>RhoGam:</b> Previous administration of human anti-Rho(D) immune globulin (RhoGam) does not generally interfere with an immune response to rubella vaccine and is not a contraindication to postpartum vaccination. Women who have received anti-Rho immune globulin should be serologically tested 6–8 weeks after vaccination to ensure that seroconversion has occurred.</p> <p><b>Adverse Reactions:</b></p> <ul style="list-style-type: none"> <li>• Fever of 103° F (39° C) beginning 5-12 days after vaccination (5% to 15%) and/or transient rashes (5%).</li> <li>• Clinically apparent thrombocytopenia occurs rarely within 2 months after vaccination.</li> <li>• Transient lymphadenopathy sometimes occurs and parotitis has been reported after receipt of MMR.</li> <li>• Arthralgias and other joint symptoms are reported in up to 25% of susceptible adult women given MMR vaccine (related to the rubella component of the vaccine).</li> <li>• Allergic reactions are rare after MMR.</li> </ul> <p><b>Contraindications and Precautions:</b></p> <ul style="list-style-type: none"> <li>• Persons who have experience a severe allergic reaction (i.e., hives, swelling of the mouth or throat, difficulty breathing, hypotension, shock) following a prior dose or to a vaccine component (e.g., gelatin, neomycin)</li> <li>• Women known to be pregnant (Pregnancy should be avoided for 4 weeks following MMR vaccine.)</li> <li>• Persons who:             <ul style="list-style-type: none"> <li>○ are immunosuppressed or immunodeficient, including congenital immunodeficiency,</li> <li>○ have leukemia*, lymphoma, generalized malignancy,</li> <li>○ have severe immunosuppression from HIV infection** or therapy with alkylating agents, antimetabolites, radiation.</li> <li>○ are receiving large dose of corticosteroids (i.e., 2 mg/kg or more per day or 20 mg or more per day of prednisone) for 14 days or more should not receive MMR. Avoid MMR for at least one month after discontinuing of high dose therapy.</li> </ul> </li> <li>• Receipt of antibody-containing blood products (e.g., immune globulin, whole blood or packed red blood cells) may interfere with seroconversion to measles vaccine. See table 2, page 5 to determine the recommended interval between administration of a blood product or immune globulin and a measles-containing vaccine.</li> <li>• History of thrombocytopenia or thrombocytopenic purpura</li> <li>• Moderate or severe acute illness until illness improves or resolves</li> </ul> <p>* Persons with leukemia in remission who have not received chemotherapy for at least 3 months may receive MMR.  ** MMR is recommended for all asymptomatic HIV-infected persons, and should be considered for symptomatic persons who are not severely immunosuppressed.</p>
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