OREGON HEALTH AUTHORITY

IMMUNIZATION PROTOCOL FOR PHARMACISTS

MEASLES, MUMPS, RUBElla and VARIcellA LIVE VIRUS VACCINE

Revisions as of 12/14/13 are based on updated Advisory Committee on Immunization Practices (ACIP) recommendations from the October 2012 meeting.

- Changes to “evidence of immunity.” See section IX, p.15.
- Recommendation for vaccination of persons with HIV infection. See section V.I. p. 9.

http://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/mmr.html

I. Order:

1. Check the ALERT Immunization Information System to determine whether the patient needs this vaccine and any other vaccines.
2. Screen clients ≥11 years for contraindications.
3. Provide an Adolescent Well Visit Flyer to those 11—18 years of age.
4. Provide a current Vaccine Information Sheet (VIS) answering any questions.
5. Obtain a signed Vaccination Administration Record (VAR)
6. Give M-M-RII® or ProQuad® vaccine 0.5ml subcutaneously (SC).
   a. May give simultaneously with all routine vaccines according to age and immunization status of recipient.
   b. If not given simultaneously with other live virus, give at least 28 days apart.
   c. If a PPD tuberculin skin test is not given simultaneously with MMR, delay PPD for at least 4 weeks.

Immunizing Pharmacist Signature
Date

For multiple signatures see: http://1.usa.gov/PharmacyImmunizationProtocols

Last Revised:  12-2013
Last Reviewed:  12-2013
Original:  05-2006
II. LICENSED COMBINATION MMR VACCINE

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Vaccine Components</th>
<th>Acceptable Age Range</th>
<th>Thimerosal</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-M-R\textsubscript{II}\textsuperscript{1} (Merck)</td>
<td>Measles\textsuperscript{2} Mumps\textsuperscript{3} Rubella\textsuperscript{4}</td>
<td>≥12 months\textsuperscript{8}</td>
<td>No</td>
</tr>
<tr>
<td>ProQuad\textsuperscript{6,7} (Merck)</td>
<td>Measles\textsuperscript{2} Mumps\textsuperscript{3} Rubella\textsuperscript{4} Varicella\textsuperscript{5}</td>
<td>12 months — 12 years of age</td>
<td>No</td>
</tr>
</tbody>
</table>

\textsuperscript{1} Each dose contains approximately 25 mcg of neomycin. The product contains no preservative. Sorbitol and hydrolyzed gelatin are added as stabilizers.

\textsuperscript{2} M-M-R\textsubscript{II} \textsuperscript{1} contains a sterile, lyophilized preparation of ATTENUVAX\textsuperscript{1}, a more attenuated line of measles virus, derived from Enders’ attenuated Edmonston strain and grown in cell cultures of chick embryo.

\textsuperscript{3} MUMPSVAX\textsuperscript{1}, the Jeryl Lynn strain of mumps virus, is grown in cell cultures of chick embryo.

\textsuperscript{4} MERUVAX\textsuperscript{1}, the Wistar RA 27/3 strain of live attenuated rubella virus, is grown in human diploid cell culture.

\textsuperscript{5} Oka/Merck strain of varicella-zoster virus propagated in MRC-5 cells.

\textsuperscript{6} MMRV vaccine must be stored frozen at an average temperature ≤5°F (≤-15°C) and the diluents should be stored separately at room temperature.

\textsuperscript{7} MMRV, like Varicella vaccine, must be given within 30 minutes of reconstitution.

Source: FDA, 2010

[http://www.fda.gov/BiologicsBloodVaccines/Vaccines/ApprovedProducts/UCM093833](http://www.fda.gov/BiologicsBloodVaccines/Vaccines/ApprovedProducts/UCM093833)

\textsuperscript{8} Infants 6—11 months of age, traveling internationally, should have at least one dose of measles-containing vaccine. [http://wwwnc.cdc.gov/travel/yellowbook/2014/chapter-3-infectious-diseases-related-to-travel/measles-rubeola](http://wwwnc.cdc.gov/travel/yellowbook/2014/chapter-3-infectious-diseases-related-to-travel/measles-rubeola)

**Note:** Single antigen varicella under separate order
III. M-M-R® RECOMMENDATIONS FOR USE:

A. All persons ≥1 year of age without medical contraindications (e.g., pregnancy), who
   • do not have acceptable evidence of immunity to measles, mumps, and rubella; OR
   • are required to be vaccinated for college attendance or medical care work, despite having acceptable evidence of immunity to measles
   ...should be vaccinated with MMR

B. Acceptable evidence of immunity is as follows: ¹
   o Birth before 1957, except for women of childbearing age
   o Laboratory evidence of immunity (protective antibody titers); or
   o Documentation of adequate vaccination, as follows.
     • Pre-school children: 1 dose
     • School age children (grades K–12): 2 doses
     • Women of childbearing age: 1 dose
     • Healthcare personnel born during or after 1957: 2 doses
     • Students at post-high-school educational institutions:
       ▪ 2 doses measles & mumps
       ▪ 1 dose rubella
     • International travelers –
       ▪ Infants 6–11 months: 1 dose
       ▪ Persons ≥12 months of age: 2 doses¹
     • All other adults: 1 dose

C. During an outbreak, a 2nd dose of vaccine should be considered for all healthcare workers and persons in groups affected by the outbreak and whose only evidence of immunity is documentation of a single dose of vaccine⁶

D. Post-partum women who do not have evidence of immunity to rubella should receive MMR vaccine upon completion or termination of the pregnancy.

E. Indications for repeating a dose of measles vaccine
   • Vaccination before the first birthday;
   • Vaccination with killed measles vaccine,
   • Vaccination with killed measles vaccine followed by live vaccine less than 4 months after the last dose of killed measles vaccine.
   • Vaccination before 1968 with an unknown type of vaccine.
   • Vaccination with IG in addition to a vaccine of unknown type. (Revaccination not necessary if IG given with Edmonston B vaccine.)
IV. EVIDENCE OF IMMUNITY

For Routine Purposes, person who meet the criteria below are considered immune to Measles, Mumps, or Rubella, respectively

<table>
<thead>
<tr>
<th>Routine Vaccination</th>
<th>Students at post-high school educational institutions</th>
<th>International Travelers, Healthcare Personnel, High-risk adults</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Measles</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 1.Documentation of age-appropriate vaccination with a live measles virus-containing vaccine<sup>1</sup>:  
- preschool-aged children: 1 dose  
- school-aged children, K-12: 2 doses  
- adults not at high risk<sup>5</sup>: 1 dose, or  
2.Laboratory evidence of immunity<sup>2</sup>, or  
3.Laboratory confirmation of disease, or  
4.Born before 1957 | 1.Documentation of vaccination with 2 doses of live measles virus-containing vaccine<sup>1</sup>, or  
2.Laboratory evidence of immunity<sup>2</sup>, or  
3.Laboratory confirmation of disease, or  
4.Born before 1957 | 1.Documentation of age-appropriate vaccination with a live measles virus-containing vaccine:  
-infants 6–11 months<sup>3</sup>: 1 dose  
-persons age ≥12 months<sup>2</sup>: 2 doses, or  
2.Laboratory evidence of immunity,<sup>2</sup> or  
3.Laboratory confirmation of disease, or  
| **Rubella**          |                                                      |                                                               |
| 1.Documentation of vaccination with 1 dose of live rubella virus-containing vaccine<sup>1</sup>, or  
2.Laboratory evidence of immunity<sup>2</sup>, or  
3.Laboratory | 1.Documentation of vaccination with 1 dose of live rubella virus-containing vaccine<sup>1</sup>, or  
2.Laboratory evidence of immunity<sup>2</sup>, or  
3.Laboratory confirmation | 1.Documentation of vaccination with 1 dose of live rubella virus-containing vaccine,<sup>1</sup> or  
2.Laboratory evidence of immunity,<sup>2</sup> or  
3.Laboratory confirmation |
<table>
<thead>
<tr>
<th>Confirmation of Disease, or</th>
<th>4. Born before 1957 (except women of childbearing age who could become pregnant)</th>
<th>of Disease, or</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mumps</strong></td>
<td>1. Documentation of age-appropriate vaccination with a live mumps virus-containing vaccine:</td>
<td>1. Documentation of vaccination with 2 doses of live mumps virus-containing vaccine, or</td>
</tr>
<tr>
<td></td>
<td>- preschool-aged children: 1 dose</td>
<td>2. Laboratory evidence of immunity, or</td>
</tr>
<tr>
<td></td>
<td>- school-aged children, K-12: 2 doses</td>
<td>3. Laboratory confirmation of disease, or</td>
</tr>
<tr>
<td></td>
<td>- adults not at high risk: 1 dose, or</td>
<td>4. Born before 1957</td>
</tr>
<tr>
<td></td>
<td>2. Laboratory evidence of immunity, or</td>
<td>1. Documented administration of 2 doses of live mumps virus-containing vaccine, or</td>
</tr>
<tr>
<td></td>
<td>3. Laboratory confirmation of disease, or</td>
<td>2. Laboratory evidence of immunity, or</td>
</tr>
<tr>
<td></td>
<td>4. Born before 1957</td>
<td>3. Laboratory confirmation of disease, or</td>
</tr>
</tbody>
</table>

1. The first dose of MMR vaccine should be administered on or after age 12 months; the second dose of measles- or mumps-containing vaccine should be administered no earlier than 28 days after the first dose.

2. Measles, rubella, or mumps immunoglobulin (IgG) serum; equivocal results should be considered negative.

3. Children who receive a dose of MMR vaccine before age 12 months should be revaccinated with 2 doses of the first of which should be administered when the child is aged 12-15 months (12 months if the child remains in a high-risk area) and the second at least 28 days later.

4. Women of childbearing age are adolescent girls and premenopausal adult women. Because rubella can occur in some persons born before 1957 and because congenital rubella and congenital rubella syndrome can occur in the offspring of women infected with rubella virus during pregnancy, birth before 1957 is not acceptable evidence of rubella immunity for women who could become pregnant.

5. CDC. Immunization of health-care personnel—Recommendations of the Advisory Committee on Immunization Practices (ACIP), 2011. MMWR 60 (RR07): 1–45. Available at: [http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6007a1.htm?s_cid=rr6007a1_e](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6007a1.htm?s_cid=rr6007a1_e)

V. (Merck) VACCINE SCHEDULE ≥ 11 YEARS OF AGE

<table>
<thead>
<tr>
<th>M-M-R$_{ll}^{\circledast}$</th>
<th>Dose and Route: 0.5mL SC</th>
<th>MINIMUM SPACING$^{1,2}$</th>
<th>Recommended Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOSE</td>
<td></td>
<td></td>
<td>≥11</td>
</tr>
<tr>
<td>1$^3$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2$^4,5$</td>
<td></td>
<td>28 days</td>
<td></td>
</tr>
</tbody>
</table>

1 For retrospective checking, doses that violate the minimum spacing or age by 4 or fewer days do not need to be repeated. Doses administered 5 days or earlier than the minimum interval or age should be repeated as age appropriate.

2 When an invalid dose needs to be repeated, the repeat dose should be spaced after the invalid dose by a time equal to or greater than the minimum interval between doses.

3 Twelve months of age is the minimum age for MMR #1. Any MMR administered before 12 months of age should be repeated.

4 Accept MMR #2 at any age as long as MMR #1 was given on or after the first birthday and MMR #2 was given at least 28 days later.

5 To include persons with HIV infection who do not have evidence of current severe immunosuppression. See Vaccination of Persons with HIV infection, Section V. I. p. 9.
V. (Merck) VACCINE SCHEDULE ≥ 11 YEARS OF AGE Cont.

<table>
<thead>
<tr>
<th>ProQuad®¹,²</th>
<th>Dose and Route: 0.5mL SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11—12 years of age</td>
</tr>
<tr>
<td>2</td>
<td>Recommend: 3 months from dose #1 to dose #2³,⁴,⁵</td>
</tr>
</tbody>
</table>

¹ For the 1<sup>st</sup> dose of measles, mumps, rubella, and varicella vaccines at age 12–47 months, use MMR and varicella vaccines separately unless the parent or caregiver expresses a preference for MMRV. A personal or family history of seizures of any etiology is a precaution for MMRV vaccination (Section V-D p.7).

² For the second dose of measles, mumps, rubella, and varicella vaccines (15 months–12 years) and for the 1<sup>st</sup> dose at age ≥48 months, use of MMRV generally is preferred over separate injections of its equivalent component vaccines. Considerations should include provider assessment, patient preference, and the potential for adverse events.

³ For children 12 months–12 years of age, for whom additional protection from varicella disease is desired in response to an outbreak, a second dose of MMRV may be administered if at least 28 days have elapsed since receiving the first dose of a varicella-containing vaccine.

⁴ MMRV may be used in children 12 months–12 years of age if a second dose of measles, mumps and rubella vaccine is to be administered and if no MMR is available at the time the second dose of MMR is indicated.

⁵ Although 15 months is the recommended minimum age for the 2<sup>nd</sup> dose (allowing for a 3-month interval between doses one and two), if the second dose is administered at least 28 days following the first dose, the second dose is considered valid and does not need to be repeated.
VI. CONTRAINDICATIONS and PRECAUTIONS

A. Allergies to vaccine components:
   Do not give a MMR or MMRV to any person with a history of anaphylactic reaction (hives, swelling of the mouth or throat, difficulty breathing, hypotension, or shock) to the vaccine or a component of the vaccine, e.g., gelatin or neomycin. (Contact dermatitis reaction to neomycin is not a contraindication).
   • A history of penicillin allergy is not a contraindication to a MMR-containing vaccine.
   • MMR-containing vaccine may be given to egg-allergic children and adults without prior routine skin testing or use of special protocols.

B. Pregnant Women
   • Do not vaccinate pregnant women with a MMR-containing vaccine.
   • Non-pregnant women being vaccinated should avoid becoming pregnant for 4 weeks following each dose of MMR-containing vaccine.
   • Breastfeeding is not a contraindication to MMR-containing vaccine for the woman or the breast-feeding child.
   • Close contact with a pregnant woman is not a contraindication to MMR-containing vaccination of the contact.

C. Defer MMR-containing vaccination during moderate or severe acute illness.

D. Precaution for MMRV vaccine:
   A personal or family (i.e., sibling or parent) history of seizures of any etiology. Studies suggest that children who have a personal or family history of febrile seizures or epilepsy are at increased risk for febrile seizures compared with children without such histories. Post-licensure studies indicated that, compared to giving MMR and varicella vaccine separately, MMRV vaccine was associated with 1 additional febrile seizure 5—12 days following vaccination for every 2,400 children 12—23 months of age vaccinated with MMRV.

E. MMR-containing vaccine is not recommended for persons who have untreated active tuberculosis.
   • A TB skin test may be given before or on the same day as an MMR-containing vaccine.
   • If TB skin test is needed after live virus vaccine is given, wait ≥ 4 weeks to place a PPD skin test. MMR or MMRV may temporarily suppress reactivity to TB test, resulting in false negative results.

Continued next page.
VI. CONTRAINDICATIONS and PRECAUTIONS Cont.

F. Persons with a history of thrombocytopenia or low platelet counts at time of injection may be at increased risk for clinically significant thrombocytopenia following a MMR-containing vaccine. If a patient experiences an episode of thrombocytopenia within 6 weeks after receiving an MMR-containing vaccine, consult with client’s physician before giving subsequent doses. Serologic testing for measles and varicella immunity may be prudent prior to administration of either vaccine.

G. Immune globulin (IG) and MMR-containing vaccines should not be administered simultaneously.
   1. If IG is given before MMR consult the table in Appendix A, pg. 12 for the appropriate interval.
   2. If MMR is given first, wait at least 2 weeks before giving IG.
   3. Should MMR need to be administered post-partum to a woman who is also receiving a post-partum dose of Rho (D) immune globulin, the woman should be tested 3 months later to ensure seroconversion for measles and rubella.

H. Do not give a MMR-containing vaccine to individuals with severe immunosuppression due to:
   1. Leukemia¹
   2. Lymphoma or generalized malignancy
   3. Severe HIV infection or AIDS²
   4. Immunosuppressive therapy (e.g., large daily doses of steroids)³,⁴
   5. Congenital immunodeficiency

I. Vaccination of Persons with HIV infection
   a. Who do not have evidence of current severe immunosuppression²
      • Age 12 months: CD4 % ≥ 15% for ≥ 6 months
      • Age > 5 years: CD4% ≥ 15 for ≥ 6 months AND ≥ 200 / mm³ for ≥ 6 months
   b. And do not have other evidence of measles, rubella, and mumps immunity.
      • Two doses of MMR vaccine for all persons aged ≥ 12 months
      • The first dose should be administered at age 12 – 15 months and the second dose at age 4 – 6 years, or as early as 28 days after the first dose.
      • Persons with perinatal HIV infection who were vaccinated prior to establishment of effective Anti Retroviral Therapy (ART) should receive two appropriately spaced doses of MMR vaccine once effective ART has been established.
1 MMR-containing vaccine may be considered for persons with leukemia in remission if at least 3 months have passed since termination of chemotherapy (Consult with patient’s oncologist).

2 MMR vaccine is recommended for all asymptomatic HIV-infected persons, and should be considered for symptomatic persons who are not severely immunosuppressed. Consult with patient’s physician and CD4 T-lymphocyte table on p. 172 of the “Pink Book,” 11th Edition before giving MMRV to a HIV-infected child.

3 A large dose of corticosteroids is considered equivalent to prednisone ≥2 mg/kg/day or ≥20 mg/day either given daily or every other day for a minimum of 14 days. Treatment with <2 mg/kg/day, alternate-day, topical, replacement, or aerosolized steroid preparations is not a contraindication to an MMR-containing vaccine.

4 MMR-containing vaccines should be avoided for at least 1 month after cessation of high-dose steroid treatment.
VII. SIDE EFFECTS AND ADVERSE REACTIONS

<table>
<thead>
<tr>
<th>Adverse Events</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute arthritis-like signs or symptoms&lt;sup&gt;1&lt;/sup&gt;</td>
<td>10</td>
</tr>
<tr>
<td>Joint symptoms</td>
<td>25</td>
</tr>
<tr>
<td>Rash</td>
<td>5</td>
</tr>
<tr>
<td>Fever ≥ 102°F (≥ 38.9°C)</td>
<td>5-15</td>
</tr>
</tbody>
</table>

<sup>1</sup>Arthralgia and transient arthritis occur more frequently in susceptible adults than in children and more frequently in susceptible women than in men.

Source: Pink Book, 11<sup>th</sup> ed. Pgs. 174, 196, 268

VIII. OTHER CONSIDERATIONS

A. For unvaccinated persons who work within medical facilities, serologic screening need not be done before vaccinating for measles, mumps and rubella unless the medical facility considers it cost-effective.

B. Healthcare workers who are susceptible and working in public agencies that use state-supplied vaccine may receive MMR vaccine on-site (2 doses at least 28 days apart). Healthcare workers from private agencies will need to purchase vaccine at their own expense.

C. Healthcare students with a birth date after January 1, 1957 with no history of disease, no history of immunization, or a negative serology for measles should receive a two-dose series of MMR vaccine.

D. A documented history of laboratory-confirmed disease is not a contraindication to administering MMR, unless the individual is immune to all three viruses.

E. Chemotherapy patients who have not received chemotherapy for at least three months may receive live virus vaccine. Provider approval required.

F. Vaccination of internationally adopted children: The simplest approach to resolving concerns regarding MMR immunization is to revaccinate with one or two doses of MMR depending on the child’s age. Alternatively, serologic testing for IgG antibody to vaccine viruses indicated on the vaccine record can be considered. Consult CDC. General Recommendations on Immunization, MMWR 2006; 55(RR-15) p.34 for further clarification regarding serologic follow-up.
G. International Travel
   1. International travelers ≥12 months of age, and individuals born on or after January 1, 1957, should have 2 doses of live measles vaccine.
   2. Children 6–11 months old should receive 1 dose of MMR vaccine before traveling internationally; then get a normal 2-dose series when ≥12 months of age.
H. For someone with a history of fainting with injections, a 15- minute observational period is recommended post immunization.
I. Protection of Contacts and Outbreak Control:
   1. See the Investigative Guidelines (OSPH) for measles, mumps and rubella. (http://www.dhs.state.or.us/publichealth/odpe/guideln/index.cfm)
   2. Although mumps vaccine may not provide post- exposure protection, it may protect against subsequent exposures.
   3. There is no evidence of increased risk for vaccine-associated adverse events if mumps vaccine is given while the disease is incubating.
   4. IG has not been of any value after exposure to either mumps or rubella. Such use is not recommended.
J. Tuberculin (TB) skin testing
   1. TB skin test should be given before or on the same day as MMR administration.
   2. If a TB skin test is needed after MMR has been given, wait at least 4 weeks to place a TB skin test. Measles vaccination may temporarily suppress tuberculin reactivity, thereby giving false-negative skin test results.
K. Exclusion of susceptibles in schools or day-care settings:
   1. Local public health authorities should consider this option.
   2. In the case of mumps, exclude susceptibles for 26 days after the onset of parotitis in the last case at the facility.
L. Persons who lack evidence of immunity to any of the three viruses in MMR are eligible for MMR. Give 2 doses at least 28 days apart.
M. MMRV, like varicella, must be protected from light and administered within 30 minutes of reconstitution.
N. Hematopoietic Stem Cell Transplant (HSCT) Revaccination: Per ACIP MMR vaccine should be administered 24 months after transplantation if the HSCT recipient is presumed to be immunocompetent. If a decision is made by transplant’s provider to vaccinate with varicella vaccine, the vaccine should be administered a minimum of 24 months after transplantation. Reference: General Recommendations on Immunization. MMWR 2011:60(RR-2). Available at www.cdc.gov/mmwr/pdf/rr/rr6002.pdf p. 22.

### IX. STORAGE AND HANDLING

#### A. LICENSED COMBINATION MMR VACCINE

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Vaccine Components</th>
<th>Temperature Range</th>
<th>Light Sensitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-M-R\textsubscript{II}® (Merck)</td>
<td>Measles, Mumps, Rubella</td>
<td>2° - 8°C (35° to 46°F) or colder\textsuperscript{1,3}</td>
<td>Y</td>
</tr>
</tbody>
</table>

\textsuperscript{1}Diluent should be stored separately at room temperature (68° to 77°F, 20° to 25°C) or in refrigerator (35° to 46°F, 2° - 8°C).

\textsuperscript{2}Do not freeze diluent. Store reconstituted vaccine in the vaccine vial in a dark place at 2° - 8°C (35° to 46°F) and discard if not used within 8 hours.

Source: M-M-R\textsubscript{II}® package insert, 2010 p. 9
<table>
<thead>
<tr>
<th>Product Name</th>
<th>Vaccine Components</th>
<th>Temperature Range</th>
<th>Light Sensitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>ProQuad® (Merck)</td>
<td>Measles Mumps Rubella Varicella</td>
<td>-58°F and +5°F (-50°C to -15°C)¹,²,³</td>
<td>Y</td>
</tr>
</tbody>
</table>

¹Diluent should be stored separately at room temperature (68°F to 77°F, 20°C to 25°C) or in refrigerator (35°F to 46°F, 2°C to 8°C).
²ProQuad® must be stored between -58°F and +5°F (-50°C to -15°C).
³Do not freeze diluent. Store reconstituted vaccine in the vaccine vial in a dark place at 2°C to 8°C (35°F to 46°F) and discard if not used within 8 hours.
Source: ProQuad® package insert, 2009 p. 24

X. ADVERSE EVENTS REPORTING

Adverse events following immunization must be reported to the Vaccine Adverse Events Reporting System (VAERS) at 1-800-822-7967. Forms and procedures can be found at the VAERS website: www.vaers.hhs.gov. In addition, a copy of the reporting form should be reported to the patient’s primary provider, per Oregon Revised Statute (ORS) 855-019-0280(4).

XI. EVENTS REPORTABLE TO VAERS: VACCINE INJURY TABLE

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Illness, disability, injury or condition covered</th>
<th>Time period until first symptom</th>
</tr>
</thead>
</table>
| Vaccines containing measles, mumps, or rubella (e.g., MMR, MMRV, MR, M, R) | 1. Anaphylaxis or anaphylactic shock  
2. Encephalopathy (or encephalitis)  
3. Any acute complication sequelae (including death) | 0-4 hours  
5-15 days (not less than 5 and not more than 15 days)  
Not applicable |
<p>| Vaccines containing rubella virus (e.g.,) | 1. Chronic arthritis                                                                                           | 7-42 days                                               |</p>
<table>
<thead>
<tr>
<th>Vaccines containing measles virus (e.g., MMR, MMRV, MR, M)</th>
<th>2. Any acute complication sequelae (including death)</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Thrombocytopenic purpura</td>
<td>7–30 days</td>
</tr>
<tr>
<td></td>
<td>2. Vaccine-strain measles viral infection in an immunodeficient recipient</td>
<td>0–6 months</td>
</tr>
<tr>
<td></td>
<td>3. Any acute complication sequelae (including death)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

APPENDIX A:

Suggested intervals between administration of immune globulin preparations and measles- or varicella-containing vaccine

<table>
<thead>
<tr>
<th>Product / Indication</th>
<th>Dose, including mg immunoglobulin G (IgG)/kg body weight</th>
<th>Recommended interval before measles or varicella-containing vaccine</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSV monoclonal antibody (Synagis™)²</td>
<td>15 mg/kg intramuscularly (IM)</td>
<td>None</td>
</tr>
<tr>
<td>Tetanus IG (TIG)</td>
<td>250 units (10 mg IgG/kg) IM</td>
<td>3 months</td>
</tr>
<tr>
<td>Hepatitis A IG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact prophylaxis</td>
<td>0.02 mL/kg (3.3 mg IgG/kg) IM</td>
<td>3 months</td>
</tr>
<tr>
<td>International travel</td>
<td>0.06 mL/kg (10 mg IgG/kg) IM</td>
<td>3 months</td>
</tr>
<tr>
<td>Hepatitis B IG (HBIG)</td>
<td>0.06 mL/kg (10 mg IgG/kg) IM</td>
<td>3 months</td>
</tr>
<tr>
<td>Rabies IG (RIG)</td>
<td>20 IU/kg (22 mg IgG/kg) IM</td>
<td>4 months</td>
</tr>
<tr>
<td>Measles prophylaxis IG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard (i.e., nonimmunocompromised) contact</td>
<td>0.25 mL/kg (40 mg IgG/kg) IM</td>
<td>5 months</td>
</tr>
<tr>
<td>Immunocompromised contact</td>
<td>0.50 mL/kg (80 mg IgG/kg) IM</td>
<td>6 months</td>
</tr>
<tr>
<td>Blood transfusion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red blood cells (RBCs), washed</td>
<td>10 mL/kg negligible IgG/kg intravenously (IV)</td>
<td>None</td>
</tr>
<tr>
<td>RBCs, adenine-saline added</td>
<td>10 mL/kg (10 mg IgG/kg) IV</td>
<td>3 months</td>
</tr>
<tr>
<td>Packed RBCs (Hct 65%)³</td>
<td>10 mL/kg (60 mg IgG/kg) IV</td>
<td>6 months</td>
</tr>
<tr>
<td>Whole blood (Hct 35%-50%)³</td>
<td>10 mL/kg (80-100 mg IgG/kg) IV</td>
<td>6 months</td>
</tr>
<tr>
<td>Plasma/platelet products</td>
<td>10 mL/kg (160 mg IgG/kg) IV</td>
<td>7 months</td>
</tr>
<tr>
<td>Cytomegalovirus intravenous immune globulin (IGIV)</td>
<td>150 mg/kg maximum</td>
<td>6 months</td>
</tr>
<tr>
<td>IGIV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Replacement therapy for immune deficiencies⁴</td>
<td>300-400 mg/kg IV³</td>
<td>8 months</td>
</tr>
<tr>
<td>Immune thrombocytopenic purpura</td>
<td>400 mg/kg IV</td>
<td>8 months</td>
</tr>
<tr>
<td>Immune thrombocytopenic purpura</td>
<td>1000 mg/kg IV</td>
<td>10 months</td>
</tr>
<tr>
<td>Postexposure varicella prophylaxis⁵</td>
<td>400 mg/kg IV</td>
<td>8 months</td>
</tr>
<tr>
<td>Kawasaki disease</td>
<td>2 g/kg IV</td>
<td>11 months</td>
</tr>
</tbody>
</table>

See foot notes next page.

Last Revised: 12-2013
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Original: 05-2006
This table is not intended for determining the correct indications and dosages for using antibody-containing products. Unvaccinated persons might not be fully protected against measles during the entire recommended interval, and additional doses of immune globulin or measles vaccine might be indicated after measles exposure. Concentrations of measles antibody in an immune globulin preparation can vary by manufacturer’s lot. Rates of antibody clearance after receipt of an immune globulin preparation also might vary. Recommended intervals are extrapolated from an estimated half-life of 30 days for passively acquired antibody and an observed interference with the immune response to measles vaccine for 5 months after a dose of 80 mg IgG/kg.

1. Does not include zoster vaccine. Zoster vaccine may be given with antibody-containing blood products.

2. Contains antibody only to respiratory syncytial virus.

3. Assumes a serum IgG concentration of 16 mg/mL.

4. Measles and varicella vaccinations are recommended for children with asymptomatic or mildly symptomatic human immunodeficiency virus (HIV) infection but are contraindicated for persons with severe immunosuppression from HIV or any other immunosuppressive disorder.

5. The investigational product VariZIG, similar to licensed VZIG, is a purified human immune globulin preparation made from plasma containing high levels of anti-varicella antibodies (immunoglobulin class G [IgG]). The interval for VariZIG and varicella vaccine (VAR or MMRV) is 5 months.

Adapted from table 5, ACIP General Recommendations on Immunization
REFERENCES

1. CDC. Measles Imported by Returning U.S. Travelers Aged 6—23 Months, 2011-2011. MMWR 2011; 60(13): 397-400. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6013a1.htm?s_cid=mm6013a1_w


4. CDC. Updated Recommendations of the Advisory Committee on Immunization Practices for the Control and Elimination of Mumps. MMWR 2006; 55 (22): 629–30. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5522a4.htm?s_cid=mm5522a4_e


7. Immunization of Health Care Workers: Recommendations of the Advisory Committee on Immunization Practices (ACIP) and the Hospital Infection Control Practices Advisory Committee (HICPAC), 1997. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/00050577.htm


To request this material in an alternative format (e.g., Braille) or to clarify any part of the above order, contact the Oregon Health Authority Immunization Program at 971.673.0300. For other questions, consult with the vaccine recipient’s primary health care provider or a consulting physician.

Electronic copy of this protocol available at: http://1.usa.gov/PharmacyImmunizationProtocols