



MEASLES POST-EXPOSURE PROPHYLAXIS (PEP) AND QUARANTINE GUIDANCE

Presumptive Evidence of Measles Immunity

- Adequate vaccination:
 - **One or more doses** of measles-containing vaccine administered on or after the first birthday for preschool-age children and adults not at high risk
 - **Written documentation of two doses** of measles-containing vaccine for school-age children, adolescents, and adults at high risk, including college students, and international travelers
 - **Written documentation** of 2 or more doses of MMR OR immunity (positive measles IgG) for healthcare personnel, K-12 and daycare staff
- Laboratory evidence of measles immunity
- Laboratory confirmation of measles (verbal history of measles does not count)
- Birth before 1957

MEASLES POST-EXPOSURE PROPHYLAXIS (PEP)

Recommendations for MMR Vaccine Administration

- If given within 72 hours of measles exposure, MMR vaccine may provide protection against infection. This approach is preferable to using IGIM for persons ≥ 12 months of age if MMR vaccine is not contraindicated. If the exposure does not result in infection, vaccination should induce protection against subsequent measles infection.
- MMR vaccine can be given to infants 6 through 11 months of age within 72 hours of measles exposure.

Recommendations for IG Administration

Human immune globulin (IG) is a blood product used to provide antibodies for short-term prevention of measles. If administered within 6 days of measles exposure, IG can prevent or modify measles in a person that is not immune. IG is not indicated for persons ≥ 12 months old and who have received at least 1 dose of measles-containing vaccine unless they are immunocompromised. Presumptive evidence measles immunity should be assessed for all identified contacts.

Intramuscular IG (IGIM) is the preferred prophylaxis product for immune-competent, susceptible contacts. Intravenous IG (IGIV) is recommended for prophylaxis in certain patients under physician guidance.

- IGIM is recommended for infants younger than 6 months of age.
- For infants 6 through 11 months of age, if greater than 72 hours from exposure but still within 6 days, then consider IG.
- IGIV is recommended for susceptible pregnant women without evidence of measles immunity, and for severely immunocompromised persons who are at risk for severe disease and complications from measles.
- IGIM can be administered to other persons who do not have evidence of measles immunity, but **priority should be given to persons exposed to measles in settings with intense, prolonged, close contact (e.g., household, daycare, and school classroom).**

Definitions:

High-risk settings: healthcare and childcare (daycare/K-12 staff)

High-risk contacts: persons with potential for severe illness if infected (e.g. severely immunocompromised individuals (see above classification); pregnant individuals) or to whom the transmission potential is high (household contacts)

Low-risk contacts: immunocompetent persons, persons >12 months of age, not pregnant, not a healthcare worker, not a household contact

Active monitoring: submitting information electronically to Public Health for daily symptom check.

Passive monitoring: the close contact is informed to keep an eye out for any symptoms of measles during the 21 days from last exposure and to report to PH if any concerning symptoms develop (even if fully immunized).

Exclusion: to remove from high-risk settings to include daycare, schools and healthcare facilities.

Quarantine: to separate, confine, or restrict the movement of persons who were or may have been exposed to a communicable disease.

Immunity (IgG) Testing: a blood test that measures IgG antibodies to determine if persons are protected against the measles virus through vaccination or past infection

Table 1. Recommended Follow-Up of Measles Contacts Who Work in a High-Risk Setting: Healthcare or Childcare (Daycare/K-12 staff)

Contacts who work in a High-Risk setting: healthcare or childcare (daycare/K-12 school staff)	IgG testing	PEP	Exclusion	Monitoring
High-risk for severe disease due to personal medical history and without 2 documented MMR vaccine doses or serologic evidence of immunity	See Table 2	See Table 2	See Table 2	See Table 2
Low risk for severe disease and with 0 documented MMR vaccine dose and no serologic evidence of immunity	No	MMR within 72 hours from first exposure ^{††}	Yes, exclude	Active
Low risk for severe disease with 1 documented MMR vaccine dose and no serologic evidence of immunity	Yes	MMR within 72 hours from first exposure ^{††}	Yes, if MMR is not received within 72 hours from first exposure or no serologic evidence of immunity.	Active

			No, if MMR is received within 72 hours from first exposure or serologic evidence of immunity.	
With 2 documented MMR vaccine doses or serologic evidence of immunity	No	No	No	Passive

Table 2. Recommended Follow-Up of High-Risk Measles Contacts
Persons with potential for severe illness if infected or to whom the likelihood of measles transmission was high.

High-risk contacts	IgG testing	PEP⁺	Quarantine	Monitoring
Unvaccinated infants < 6 months*	No	IG only	Yes**	Active
Unvaccinated infants 6-11 months	No	MMR ⁺⁺ within 72 hours from first exposure. If more than 72 hours but still within 6 days from exposure, then consider IG	Yes** If received MMR: Quarantine for 21 days If received IG: Quarantine for 28 days	Active
Pregnant persons without 2 documented MMR vaccine doses or serologic evidence of immunity ^{##}	Yes	If not immune, give IGIV only if within 6 days of exposure	Yes**	Active
Pregnant persons with 2 documented MMR vaccine doses or serologic evidence of immunity	No	No	No	Passive
Severely immunocompromised (see classification below)	No	IG within 6 days of exposure regardless of immunity status	Yes**	Active
Household contact or contact with prolonged exposure with 0 or 1 documented MMR vaccine doses (or without serologic evidence of immunity)	Yes	MMR within 72 hours from first exposure ⁺⁺ (see above for pregnant or immunocompromised)	Yes, quarantine if not immune No, quarantine If lab confirmed immunity	Active
Household contact or contact with prolonged exposure with 2 documented MMR	No	No	No	Passive

vaccine doses (or with serologic evidence of immunity)				
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Table 3. Recommended Follow-Up of Low-Risk Measles Contacts
Immunocompetent persons, persons >12 months of age, not pregnant, not a healthcare or childcare/school worker, not a household contact

Low-Risk contacts	IgG testing	PEP[†]	Exclusion	Monitoring
Two doses of MMR vaccine	No	No	No	Passive
Known to have had measles (measles IgG positive)	No	No	No	Passive
One dose of MMR vaccine in school-age children, adolescents, and college students	No	MMR within 72 hours from first exposure ^{††} (if 28 days have passed since first dose of MMR)	No exclusion if second dose of MMR is received within 72 hours from first exposure. Yes, exclude if second dose of MMR is not received within 72 hours from first exposure due to high-risk school setting	Active
One dose of MMR vaccine in preschool-age children	No	MMR ^{††} (if 28 days have passed since first dose of MMR)	No exclusion due to receipt of age-appropriate dose	Passive
One dose of MMR vaccine in adults not at high risk	No	MMR ^{††} (if 28 days have passed since first dose of MMR)	No exclusion due to meeting presumptive immunity (see definition above)	Passive
Unknown or no documentation of vaccination or immune status, without presumption of immunity	No	MMR ^{††}	Yes ^{**} (even if first dose of MMR is received within 72 hrs.)	Active
Unknown or no documentation of vaccination or immune status, with presumption of immunity	No	MMR	No exclusion due to meeting presumptive immunity	Passive

Prior measles IgG negative test result	No	MMR ^{††}	Yes ^{**} (even if first dose of MMR is received within 72 hrs.)	Active
Known to be unvaccinated	No	MMR ^{††}	Yes ^{**} (even if first dose of MMR is received within 72 hrs.)	Active

*The post-exposure prophylaxis recommendations for infants <6 months of age is to receive IG if there are no contraindications. If IG cannot be administered due to parental hesitancy, measles PEP could be deferred IF the birthing mother had documented evidence of immunity to measles or received two doses of the MMR vaccine. If the birthing mother's immunity status is unknown, an IgG antibody test could be performed to determine immunity before deciding on measles PEP for the infant. This should be a discussion between public health and the healthcare provider caring for the patient.

† Contacts at high risk of severe infection (severely immunocompromised people, unvaccinated infants, and susceptible pregnant persons) should receive IG PEP within 6 days or less from the date of last exposure to measles. **Anyone who received IG should quarantine for 28 days (not 21 days)**

** Exclude through day 21 after last exposure. Those who have received IG should exclude through day 28 after last exposure.

†† MMR vaccine can be given as PEP within 72 hours or less from the time of exposure to persons >6 months of age who do not have contraindications for MMR vaccine.

‡‡ If it can be done rapidly, it is recommended that pregnant persons be tested for measles IgG prior to administering IGIV if it is likely that they have received vaccine or had disease. If an exposed pregnant person is IgG negative or IgG equivocal or has unknown status and IgG test results (or retest) will not be known by day 6 after exposure, administer IGIV.

#Severely immunocompromising conditions include:

- Severe primary immunodeficiency.
- Bone marrow transplant until ≥ 12 months after finishing all immunosuppressive treatment, and maybe longer in patients who have developed graft-versus-host disease.
- On treatment for acute lymphoblastic leukemia (ALL) within and until ≥ 6 months after completion of immunosuppressive chemotherapy.
- On cancer chemotherapy^{##}
- Post solid organ transplantation^{##}
- Receiving daily corticosteroid therapy with a dose ≥ 20 mg (or >2 mg/kg/day for patients who weigh <10 kg) of prednisone or equivalent for ≥ 14 days
- Receiving certain biologic immune modulators, such as tumor necrosis factor-alpha (TNF- α) blockers or rituximab ^{##}
- After hematopoietic stem cell transplant, duration of high-level immunosuppression is highly variable and depends on type of transplant (longer for allogenic than autologous), type of donor and stem cell source, and post-transplant complications such as graft vs. host disease and their treatments^{##}
- AIDS or HIV with severe immunosuppression defined as CD4 $<15\%$ (all ages) or CD4 count or CD4 count <200 lymphocytes/mm³ (aged >5 years).

Low-level immunosuppression:

In the absence of published guidance on exposed persons with low-level immunosuppression, consider assessing presumptive immunity to measles (measles IgG positive or 2 MMR vaccine doses) to determine if PEP is indicated.

Check guidance/discuss with treating provider as duration of immunosuppression during or following chemotherapy, transplants, or biologic immune modulators may vary.

References: CDC. Prevention of Measles, Rubella, Congenital Rubella Syndrome, and Mumps, 2013. MMWR. 2013;62(4); Rubin et. al. 2013 IDSA Clinical Practice Guideline for Vaccination of the Immunocompromised Host. CID. 2014:58.

Visit the Georgia Department of Public Health for additional information about [Measles \(Rubeola\)](#)

