



MARYLAND Department of Health

For Clinicians: Measles Frequently Asked Questions

Vaccine Recommendations

1. What are the recommendations for vaccination of patients who might be at increased risk for measles exposure?

Healthcare providers should consider modifications to routine vaccination recommendations for patients who might be at increased risk of measles exposure, which includes people who:

- Are planning to travel to other areas with measles outbreaks (see list of measles outbreaks reported to CDC here: <https://www.cdc.gov/measles/cases-outbreaks.html>), or
- Might have contact with visitors from areas with measles outbreaks

For patients who might be at increased risk of measles exposure, healthcare providers should consider the following modifications:

- **Children 6-11 months old:** Give an initial MMR vaccine to children 6 months through 11 months. These children will still need two additional doses at least 28 days apart on or after the first birthday.
- **Children 1-3 years:** Give a second dose of MMR vaccine to children 1 year through 3 years of age who have already received their first MMR vaccine, as long as 28 days have passed since the first MMR vaccine was given to them. These children do not need an additional, third dose of vaccine as long as the child received both vaccines after the 1st birthday given at least 28 days apart.
- **Children 4-17 years:** If not already given, give a second dose of MMR vaccine as soon as possible, as long as 28 days have passed since the first MMR vaccine.
- **Adults:** In adults born after 1957 who have only received 1 dose of MMR vaccine, give a second dose of vaccine. MMR vaccine can also be given to adults born before 1957 if prior exposure to measles is uncertain.

2. An adult patient born during or after 1957 is at increased risk for measles exposure, and doesn't have an immunization record available. How should I proceed?

People at increased risk for measles exposure include people who are planning to travel to other areas with measles outbreaks (see list of measles outbreaks reported to CDC at <https://www.cdc.gov/measles/cases-outbreaks.html>); and people who might have contact with

visitors from these areas.

Many adults born after 1957 might have only received 1 dose of MMR vaccine. If a patient is at increased risk for exposure to measles, and does not have evidence of measles immunity, clinicians should consider giving a second dose of MMR vaccine.

Acceptable presumptive evidence of immunity against measles includes at least one of the following:

- Written documentation of adequate vaccination
- Laboratory evidence of immunity
- Laboratory confirmation of measles
- Birth before 1957

The Advisory Committee on Immunization Practices (ACIP) does not recommend serologic testing (“titers”) after vaccination, as commercial tests might not be sensitive enough to reliably detect vaccine-induced immunity.

However, in certain scenarios, providers and their patients may choose to obtain serologic testing (“titers”) to evaluate measles immunity, rather than immediately giving the second dose of vaccine. This decision might be impacted by vaccine availability, clinical considerations, logistical and administrative considerations, and/or patient or provider preference.

If serologic testing demonstrates immunity, no additional vaccine is recommended. If serologic testing shows no immunity, or is equivocal, vaccine should be given.

3. An adult patient born before 1957 is at increased risk for measles exposure, and doesn’t have an immunization record available. How should I proceed?

In general, birth before 1957 is considered acceptable presumptive evidence of immunity against measles.

However, if prior exposure to measles is uncertain in a patient born before 1957, AND that patient is at increased risk for measles exposure, clinicians should consider giving MMR vaccine.

People at increased risk for measles exposure include people who are planning to travel to other areas with measles outbreaks (see list of measles outbreaks reported to CDC at <https://www.cdc.gov/measles/cases-outbreaks.html>); and people who might have contact with visitors from these areas.

4. Is there harm in giving MMR vaccine to a person who might already be immune to one or more of the vaccine viruses?

No, there is no known increased risk of serious adverse event if a third dose of MMR is administered to a person who is already immune.

5. If a patient has a documented history of appropriate MMR vaccination, should titers be checked to ensure immunity to measles?

No, in a patient with a documented history of appropriate MMR vaccination, the ACIP does not recommend checking titers after vaccination.

6. If a child receives the second dose of MMR vaccine before the 4th birthday (i.e. age 1-3 years), will they need a third dose of vaccine before starting school?

No. As long as a child received both MMR vaccines after the 1st birthday, and the 2nd dose is administered at least 28 days after the first dose, no additional vaccine is indicated.

7. What are the contraindications and precautions for the MMR vaccine?

Per 2013 ACIP recommendations, contraindications for MMR vaccine include:

- History of anaphylactic reactions to neomycin,
- History of severe allergic reaction to any component of the vaccine,
- Pregnancy, and
- Immunosuppression, including:
 - Primary or acquired immunodeficiency, including persons with immunosuppression associated with cellular immunodeficiencies, hypogammaglobulinemia, dysgammaglobulinemia and AIDS or severe immunosuppression associated with HIV infection;
 - Blood dyscrasias, leukemia, lymphomas of any type, or other malignant neoplasms affecting the bone marrow or lymphatic system;
 - Patients who have a 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; OR
 - Patients who are receiving systemic immunosuppressive therapy, including corticosteroids ≥ 2 mg/kg of body weight or ≥ 20 mg/day of prednisone or equivalent for persons who weigh > 10 kg, when administered for ≥ 2 weeks

Precautions for MMR and MMRV vaccines include recent (≤ 11 months) receipt of an antibody-containing blood product, concurrent moderate or severe illness with or without fever, history of thrombocytopenia or thrombocytopenic purpura, and tuberculin skin testing.

More information is available at

<https://www.cdc.gov/mmwr/preview/mmwrhtml/rr6204a1.htm>

8. Should household and close contacts of immunocompromised persons receive the MMR vaccine?

Immunocompromised persons are at high risk for severe complications if infected with measles. All family and other close contacts of immunocompromised persons aged ≥ 12 months should receive 2 doses of MMR vaccine unless they have other evidence of measles immunity.

Health Care Personnel (HCP) Recommendations

9. What are the recommendations for healthcare personnel and measles immunity?

[Recommendations of the ACIP on Immunization of Health-Care Personnel](#) provides detailed guidance on this topic, and key points are summarized below.

Presumptive evidence of immunity to measles for persons who work in healthcare facilities includes at least one of the following:

- Written documentation of vaccination with 2 doses of live measles or MMR vaccine administered at least 28 days apart; verbal report of vaccination is NOT acceptable
- Laboratory evidence of immunity (i.e. measles IgG in the serum; equivocal results should be considered negative)
- Laboratory confirmation of disease
- Birth before 1957 (For unvaccinated personnel born before 1957 who lack laboratory evidence of measles immunity or laboratory confirmation of disease, healthcare facilities should CONSIDER vaccinating personnel with 2 doses of MMR vaccine at least 28 days apart)

If presumptive evidence of immunity is not available, HCP should be vaccinated, unless contraindications are present. Prevacination antibody screening before MMR vaccination for HCP who do not have adequate presumptive evidence of immunity is not necessary unless the medical facility considers it cost effective.

For HCP who have two documented doses of MMR vaccine or other acceptable evidence of immunity to measles, serologic testing for immunity is not recommended.

10. If a healthcare worker does not have adequate presumptive evidence of immunity, is it recommended to check “titers”?

If presumptive evidence of immunity is not available, HCP should be vaccinated, unless contraindications are present. Prevacination antibody screening before MMR vaccination for healthcare personnel who does not have adequate presumptive evidence of immunity is not necessary (unless the medical facility considers it cost effective).

11. If a healthcare worker has 2 documented doses of MMR vaccine and is found to have negative or equivocal measles titer results, is it recommended that the person receive an additional dose of MMR vaccine?

If a healthcare worker has 2 documented doses of MMR vaccine and is tested serologically and determined to have negative or equivocal measles titer results, it is not recommended that the person receive an additional dose of MMR vaccine.

Such persons should be considered to have presumptive evidence of measles immunity.

Documented age-appropriate vaccination supersedes the results of subsequent serologic testing.

Additional information is available in the 2011 Immunization of Health-Care Personnel ACIP recommendations at <https://www.cdc.gov/mmwr/pdf/rr/rr6007.pdf>

Isolation and Testing Recommendations for Suspected Measles

12. I suspect measles in a patient. What are the recommendations for isolation?

Infected people should be isolated for four days after they develop a rash.

Airborne precautions should be followed in healthcare settings.

Regardless of presumptive immunity status, all healthcare staff entering the room should use respiratory protection consistent with airborne infection control precautions (use of an N95 respirator or a respirator with similar effectiveness in preventing airborne transmission).

The preferred placement for patients who require airborne precautions is in a single-patient airborne infection isolation room (AIIR).

13. I suspect measles in a patient. What are the processes for requesting measles testing?

If you encounter a patient with suspected measles, obtain:

- Serum sample for serology, AND
- Either a nasopharyngeal (NP) or throat swab for PCR testing. NP is preferred, however, throat swab will be accepted. Swabs must be placed in unexpired Viral Transport Media (also called Universal Transport Media). Swabs in other types of media cannot be tested for measles.

Immediately notify your local health department of all suspected measles cases.

MDH recommends that measles testing, when indicated, be performed at the MDH Laboratories Administration. Measles testing at MDH requires prior approval through your local health department.

14. What are the laboratory tests that confirm measles infection?

Detection of measles-specific IgM antibody in serum and measles RNA by real-time polymerase chain reaction (RT-PCR) in a respiratory specimen are the most common methods for confirming measles infection.