



## SMFM Provider FAQs

### Measles and Pregnancy: What Maternal-Fetal Medicine Subspecialists Need to Know

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*This guidance was developed by the Society for Maternal-Fetal Medicine (SMFM) Committee on Infectious Diseases and Emerging Threats.*

This document has been updated as follows:

- Includes updated information on measles cases in the US in 2024 and 2025.
- Includes updated information about vitamin A supplementation during pregnancy.
- Includes a recommendation on how to counsel postpartum patients on breastfeeding with a suspected or confirmed case of measles.

## Background

Measles, also known as rubeola, is a preventable, highly contagious, acute febrile viral illness and an important cause of mortality and morbidity. The Centers for Disease Control and Prevention issued a [Health Alert Network Health Advisory \(HAN\) in March 2024](#), reporting on an increase in global and domestic measles cases and outbreaks, which have continued to expand.<sup>1</sup> More recently, a [HAN Advisory](#) was issued in March 2025 in response to over 200 cases reported nationwide, with cases largely concentrated in Texas and New Mexico.<sup>2</sup> So far, two deaths are linked to measles.<sup>2</sup> The rise in measles cases has been linked to decreased vaccination rates and increased travel (see The Centers for Disease Control and Prevention [Measles Cases and Outbreaks](#) for latest updates of cases in the US).

Measles is an airborne illness that can cause rash, fever, red eyes, and cough. Severe cases can result in blindness, pneumonia or encephalitis. In some cases, illness can be fatal. Pregnant individuals are at increased risk for measles-related complications such as pneumonia and for adverse perinatal outcomes such as miscarriage, stillbirth, preterm birth, and low birth weight.

This document provides interim guidance and clinical considerations for measles and pregnancy.

## Summary of Recommendations

- Pregnant persons without evidence of immunity should receive a single 400-mg/kg dose of immune globulin IV (IVIG) within 6 days of exposure.
- The use of Vitamin A at doses used for supportive treatment of measles is contraindicated in pregnancy.

- Non-pregnant reproductive age people who do not have presumptive evidence of immunity should receive at least one dose of MMR vaccine.
- Pregnant people who are unimmunized should defer vaccination until postpartum, ideally before discharge from the delivery hospital.
- MMR vaccination is safe for breastfeeding people. Breastfeeding does not interfere with immunity, and the vaccine is not transmitted through breast milk.
- **Lactating patients with suspected or confirmed active measles infection should be counseled on safe practices to prevent virus transmission.**

### **How is measles spread?**

Measles is considered transmissible from 4 days before through 4 days following rash onset. The causative organism is the measles virus, a member of the Paramyxoviridae family. The virus is highly contagious; up to 90% of susceptible persons develop measles after exposure. Measles is transmitted from person to person by respiratory droplets, small particle aerosols, and close contact.

### **How does measles present?**

The incubation period lasts an average of 11 to 12 days, but a range between 6 and 21 days has also been reported. During the incubation period, many patients are asymptomatic, although some may report transient respiratory symptoms.

The prodromal phase lasts for 2 to 4 days and is defined by fever, malaise, and anorexia, followed by conjunctivitis, coryza, and cough. Koplik spots are pathognomonic. These 1 to 3-millimeter elevations with an erythematous base appear in the buccal mucosa 1 to 2 days before the viral exanthema.

The measles rash is an erythematous, maculopapular, blanching eruption, which classically begins on the face and spreads caudally to the neck, upper and lower trunk, and extremities. It lasts for 5 to 6 days and fades in order of appearance (see: [CDC Photos of Measles and People with Measles](#)).

Approximately 30% of measles cases will have complications, including diarrhea, otitis media, pneumonia, encephalitis, subacute sclerosing panencephalitis, and death. Individuals at risk include children too young to be vaccinated, unvaccinated individuals, and those unable to mount a response to vaccination.

### **What measles complications are unique to pregnancy?**

Measles during pregnancy is associated with an increased risk for adverse maternal and fetal outcomes.<sup>3</sup> Measles during pregnancy has been associated with an increased maternal risk of hospitalization, pneumonia, need for oxygen support or mechanical ventilation, and death. Fetal and neonatal risks include an increased risk of miscarriage, stillbirth, low birth weight, prematurity, and infant mortality. Congenital viral syndrome has not been described; however, some case reports have described an increased risk of congenital malformations with first-trimester exposure.<sup>4</sup>

**What diagnostic and laboratory tests are available for measles?**

Measles should be suspected in any patient presenting with an acute febrile rash. Laboratory confirmation should be performed through the detection of measles-specific immunoglobulin (Ig) M and measles RNA by real-time polymerase chain reaction (RT-PCR) in a respiratory specimen (nasopharyngeal or throat swab). Healthcare providers are required to report suspected cases to their local health department.

**What treatment is available for measles?**

The treatment of measles is supportive and includes antipyretics, fluids, treatment of bacterial superinfections such as bacterial pneumonia, and treatment of other complications, such as respiratory failure.

Vitamin A has demonstrated some benefit for the treatment of measles in children. However, the benefit has not been established for adults. Doses above 10,000 units/day are associated with fetal craniofacial, central nervous system, heart and thymus abnormalities. Therefore, the use of Vitamin A at doses used for supportive treatment of measles is contraindicated in pregnancy. There is no data to inform the risk of Vitamin A supplementation for treatment of measles during lactation.

**What preventive options are available for measles-exposed pregnant patients?**

Exposure is defined as being in close contact with a known infected person without adequate personal protective equipment. Given its small-particle aerosol transmissibility, measles exposure is also defined as sharing the same room with a person who is actively infectious for measles or sharing the same air space within 2 hours of a person who is actively infectious.

Individuals are considered susceptible to measles if they have not been completely immunized. If a pregnant individual is exposed and does not know their vaccination record, measles immunity can be determined using a laboratory test (see: CDC [“Am I protected against measles?”](#)).

If the pregnant individual is immune by vaccination record or laboratory test, no further intervention or treatment is needed for the pregnant person after exposure.

Pregnant persons without evidence of immunity should receive a single 400-mg/kg dose of immune globulin IV (IVIG) within 6 days of exposure. IVIG should not be given to people with immunoglobulin (Ig) A deficiency due to the risk of anaphylaxis. IVIG should not be administered to people with known anaphylaxis.

**How should lactating patients with suspected or confirmed measles infection be counseled regarding infant feeding?**

Lactating patients with suspected or confirmed active measles infection should be counseled on safe practices to prevent virus transmission, including:

- Wearing a face mask when near the infant;
- Handwashing before a feeding session;
- Limiting skin-to-skin contact with the infant for up to 3 days; and
- Considering use of a breast pump to extract milk for bottle-feeding.

**What are the current recommendations for measles vaccination?**

The Centers for Disease Control and Prevention (CDC) recommends that all children receive 2 doses of measles-mumps-rubella vaccine.<sup>4</sup> The first dose should be given at age 12 to 15 months and the second dose at 4 to 6 years of age.

Non-pregnant reproductive age people who do not have presumptive evidence of immunity\* should receive at least one dose of MMR vaccine.

Pregnant people who are unimmunized should defer vaccination until postpartum, ideally before discharge from the delivery hospital.

MMR vaccination is safe for breastfeeding people. Breastfeeding does not interfere with immunity, and the vaccine is not transmitted through breast milk.

\* Evidence of immunity includes at least one of the following:

1. Written documentation of adequate vaccination:
  - a. One or more doses of measles-containing vaccine administered on or after the first birthday for preschool-aged children and adults not at high risk for exposure and transmission.
  - b. Two doses of measles-containing vaccine for school-aged children and adults at high risk for exposure and transmission, including college students, healthcare personnel, and international travelers.
2. Laboratory evidence of immunity
3. Laboratory confirmation of measles
4. Born before 1957

**How should patients be counseled regarding MMR vaccination?**

Patients should be informed that measles is almost entirely preventable through vaccination. Two doses are about 97% effective at preventing measles, and one dose is approximately 93% effective. There is no association between MMR vaccination and autism.

Because the MMR vaccine is an attenuated live virus vaccine, unvaccinated pregnant individuals should wait until after giving birth to receive the MMR vaccine. Pre-pregnancy and postpartum vaccination are options for individuals not previously vaccinated. Pregnancy should be delayed for at least four weeks after receiving the MMR vaccine.

Pregnant patients who inadvertently receive MMR vaccine should be counseled that the risk of infection from live vaccine is theoretical and that no documented harm has occurred following vaccination.

Vaccination while breastfeeding is safe. Additionally, it is safe for family members of the pregnant person to be vaccinated as they do not pose a risk of transmission to the pregnant person.

**Is routine measles serology screening necessary in pregnancy?**

Routine screening for measles immunity is not currently recommended in pregnancy. However, serologic screening for immunity (measles IgG) can be considered for pregnant individuals without evidence of presumptive immunity in areas of ongoing transmission.

**Do healthcare personnel need to be vaccinated against measles?**

All healthcare personnel with direct patient contact should have documented evidence of immunity to measles.

**How should healthcare providers report suspected and confirmed measles cases?**

Providers should notify their state, tribal, local, and/or territorial health departments of any suspected or confirmed measles cases within 24 hours. Cases can be reported to CDC directly at [measlesreport@cdc.gov](mailto:measlesreport@cdc.gov) and through the National Notifiable Diseases Surveillance System ([NNDSS](#)).

**Additional Resources***For Clinicians*

- [CDC Healthcare Providers Measles Page](#)
- [CDC HAN March 2024 on Measles](#)
- [CDC HAN March 2025 on Measles](#)
- [CDC Measles Cases and Outbreaks in the US](#)
- [ACOG Practice Advisory on Management of Obstetric–Gynecologic Patients During a Measles Outbreak](#)

*For Patients and the Public*

- [SMFM Vaccination Guide for Pregnancy](#)
- [CDC Vaccine Recommendations Before, During and After Pregnancy](#)

## References

1. Centers for Disease Control and Prevention. Increase in Global and Domestic Measles Cases and Outbreaks: Ensure Children in the United States and Those Traveling Internationally 6 Months and Older are Current on MMR Vaccination. Department of Health and Human Services. Updated March 18, 2024. Accessed March 19, 2025.  
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