

Measles FAQ/Talking Points for Clinicians – Yellowstone County

General information

- Why should my patients worry about measles?
 - Measles is one of the most communicable human pathogens. One infected individual can infect up to 18 susceptible individuals (compared to influenza, 2-3 individuals). The attack rate in susceptible individuals is 90% in close-contact settings.
 - Although most people with measles recover, complications (including ear infection, pneumonia, croup, and diarrhea) commonly occur in young children and immunocompromised people.
 - Acute encephalitis, which often results in permanent neurologic deficits, occurs in about one in every 1000 cases.
 - The risk of death is increased in children under 5 years, pregnant women, and immunocompromised people.
 - Other measles complications include measles inclusion body encephalitis (occurring within 1 year of infection) and subacute sclerosing panencephalitis (occurring seven to eleven years after infection).
 - Finally, children who had measles have blunted immune responses to other pathogens and increased mortality for several years after infection (i.e., immunologic amnesia).
- Why are we seeing an increase in measles cases in the U.S.?
 - Measles was considered eliminated from the U.S. in 2000. Since then, most measles cases reported in the U.S. have been imported from abroad. However, local measles cases have emerged in recent years as MMR vaccination rates in the U.S. have declined.
 - There are concerns about the vaccine safety profile and circulating misinformation regarding the dangers of the MMR vaccine.
 - There is misinformation that measles immunity is better by natural infection than vaccination.
 - There is misinformation suggesting the use of “alternative” therapy in treating measles infection (i.e., clarithromycin and budesonide) as a safer option to vaccination.
- How protected is Yellowstone County against measles?
 - The MMR vaccination rate of children under 24 months in Montana is about 86%. However, the vaccination rates can vary significantly depending on the region and population of the state.
 - The MMR vaccination rate in Yellowstone County is estimated to be around 90%. Although large outbreaks are unlikely, pockets of outbreaks are more likely to occur (e.g., unvaccinated family members, church groups, etc.). Moreover, more breakthrough infections of vaccinated persons may also occur. As more measles cases develop, the risk of prolonged exposure increases.
- Is the measles, mumps, and rubella (MMR) vaccine safe?
 - Yes. Extensive research has been published on the safety profile of the MMR vaccine. Consider using the graphics below when discussing vaccination in vaccine-hesitant patients. (<https://ourworldindata.org/measles-vaccine-effectiveness-safety>)

Prevention

- How do I protect my patients and the public from measles?
 - Vaccination is the most effective way to protect patients and their families from measles. One dose of the measles, mumps, and rubella (MMR) vaccine is 93% effective against measles, and a second dose increases the effectiveness to 97%.
 - Vaccination also protects against the spread of measles when a sufficient percentage of the population is vaccinated (~95%).
- What are the vaccine schedule recommendations?
 - Children should receive their first dose of the MMR vaccine between 12 and 15 months of age and their second dose between 4 and 6 years of age.
 - Unvaccinated adults should receive one dose of the MMR vaccine.
 - Adults born before 1957 are considered immune to measles.
 - Children who will be traveling internationally or at risk of exposure
- How do I know if my patient is protected?
 - Children who are up to date with the MMR vaccination series based on the ACIP recommendations (see above).
 - Adults with documentation of receiving at least one MMR vaccine dose.
 - Adults with a positive measles IgG titer.
 - Adults with a documented history of measles infection.
 - Adults who were born before 1957. It is assumed that everyone had measles before the vaccines were available.
- My measles-immune adult patient is asking for a booster dose. What should I do? Should I offer my patients booster doses?
 - Adults who have received at least one dose of the MMR vaccine are generally considered immune.
 - Moreover, adults born before 1957 are considered immune, as those adults are assumed to have been previously infected.
 - However, adults who work in healthcare settings, plan to travel internationally, or attend college and other post-high school educational institutions should receive two doses of the MMR vaccine.
 - In general, a booster dose is not necessary if the patient has met the one immunity criterion (see the previous question). However, there is no contraindication to receiving a dose of the MMR vaccine (unless the patient has known
- When should I consider an accelerated measles vaccination schedule for my pediatric patients?
 - Accelerated measles vaccination schedule may be considered if there is ongoing measles transmission in the local community to reduce the risk of measles infection. It may also be considered in children who may be exposed to measles during international travel.
 - It involves administering the second MMR vaccine dose before the recommended age of 4 to 6 years, at least 28 days from the first dose.

- Infants between 6 and 11 months of age may receive a MMR vaccine dose if there is a risk of exposure to measles as outlined above. However, this dose does not count towards the routine immunization schedule.
- My patient cannot recall if he has been vaccinated or cannot find his vaccination documents. What do I do?
 - Clinicians caring for pediatric patients are encouraged to access Montana's Immunization Information System (i.e., ImMTrax) to verify their patients' vaccination status. Those patients without documentation of vaccination should receive an MMR vaccine dose immediately, followed by a second dose at least 28 days later.
 - Clinicians who are unable to confirm an adult patient's vaccination may consider offering an MMR vaccine dose, provided there are no contraindications to receiving the vaccine. The vaccine is safe for patients who have received it previously. Alternatively, clinicians may offer to test their patients for measles immunity (i.e., measles-specific IgG titer) to help determine
- Should I order a measles-specific IgG antibody titer on all my patients to confirm immunity?
 - Testing is generally unnecessary if there is documentation confirming receipt of two MMR vaccine doses.
 - Measles immunity is considered lifelong, regardless of how the immunity is achieved (i.e., infection vs vaccination). Vaccine-induced immunity does not wane over time.
- What should I recommend to my patients who plan to travel internationally or domestically to a region affected by a measles outbreak?
 - Unvaccinated adults or those without evidence of immunity should receive two MMR vaccine doses, administered 28 days apart.
 - Adults who received only one MMR vaccine should receive a second dose at least 28 days after the first dose.
 - Adults who have received two MMR vaccine doses do not need additional doses.
 - Unvaccinated children (>12 months) should receive two MMR vaccine doses, at least 28 days apart.
 - Children who received only one MMR vaccine dose should receive a second dose, at least 28 days after the previous dose.
 - Infants (<12 months but >6 months) should receive one MMR vaccine dose. However, this dose does not count towards the routine vaccination series.
 - Infants under 6 months are not eligible for the MMR vaccine.
- Should I give vitamin A to my children to protect them from measles?
 - Vitamin A is not recommended as a preventative measure as it has not been shown to prevent measles infection.
 - There are reports that children who received excessive vitamin A supplements developed acute liver injury.

Exposure

- What factors should I consider when assessing my patients for possible measles exposure?

- Location of exposure.
 - The exposure risk is higher in indoor or confined spaces than in outdoor or open spaces.
 - The exposure risk is higher the closer your patient is to a person infected with measles.
- The stage of illness of the person with measles. Generally, a person with measles is considered contagious between four days before and four days after the onset of the rash. However, be aware that immunocompromised persons with measles may not develop a rash.
- Use of personal protective equipment (i.e., facemasks) during the encounter.
 - Well-fitted N95 respirators provide the best protection from transmission.
 - The use of a facemask by a person with measles reduces the risk of transmission but does not completely prevent infection.
- If unclear, please contact or refer your patient to RiverStone Health Public Health Services for clarification at (406) 247-3305.
- What should I do if my patient may have been exposed to measles?
 - Clinicians should immediately place the patient in a private room and assess the patient for symptoms suggestive of measles (e.g., fever, upper respiratory symptoms, and rash). If present, they should be tested for measles, and RiverStone Public Health must be notified of the patient.
 - If the patient has no symptoms, they should immediately refer to RiverStone Health Services Public Health Services (406) 247-3305 to report their exposure and receive guidance. The patient should be instructed to remain home and under quarantine until Public Health Services.
- Where do I find areas affected by measles cases or outbreaks?
 - Clinicians may review the following website for reported measles cases and outbreaks in the U.S.
 - <https://cori.centerforhealthsecurity.org/resources/measles-outbreak-response>
 - Clinicians may also check DPHHS's and/or their local health department measles webpage for updates on local measles cases.
 - <https://dphhs.mt.gov/publichealth/cdepi/diseases/measles>.
 - riverstonehealth.org/measles
- Where can my patients learn more about potential exposures?
 - Please check the county public health websites for active exposure sites.
 - Gallatin County: <https://www.healthygallatin.org/community-health/communicable-diseases/measles/>
 - Flathead County: <https://flatheadcounty.gov/department-directory/health/population-health/communicable-disease/measles>
 - Hill County: <https://hillcountyhealth.com/covid-19/>
 - Yellowstone County: RiverStoneHealth.org/Measles

Treatment

- There is no cure or specific treatment for measles.
- Most people with measles will recover and require only supportive care.
- At-risk patients with measles should be monitored for complications.
- Vitamin A supplements may be considered for children to prevent vitamin A deficiency caused by measles infection. A deficiency in vitamin A increases the risk of complications and death caused by measles. Vitamin A supplementation does not prevent or cure measles. Moreover, many studies supporting this treatment were performed in resource-limited areas where vitamin A deficiency is more prevalent. The vitamin A dosing recommendations are outlined in the Measles section of the Red Book published by the American Academy of Pediatrics (see below).

Resources for Clinicians

“Measles Resource for the Health Care Professionals from the American Academy of Pediatrics”, The American Academy of Pediatrics (2025)

(<https://publications.aap.org/redbook/resources/31510>)

"Measles", Red Book: 2024–2027 Report of the Committee on Infectious Diseases, Committee on Infectious Diseases, American Academy of Pediatrics, David W. Kimberlin, MD, FAAP, Ritu Banerjee, MD, PhD, FAAP, Elizabeth D. Barnett, MD, FAAP, Ruth Lynfield, MD, FAAP, Mark H. Sawyer, MD, FAAP (<https://publications.aap.org/redbook/book/755/chapter/14079321/Measles>)

“Ask the Experts: MMR (Measles, Mumps, and Rubella)”, Immunize.org

(<https://www.immunize.org/ask-experts/topic/mmr/>)

“Measles Vaccination Recommendations”, The U.S. Centers for Disease Control and Prevention (2024) (<https://www.cdc.gov/measles/hcp/vaccine-considerations/index.html>)

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