The Medical Letter®

on Drugs and Therapeutics

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Advance Release Article

IN THIS ISSUE

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IN BRIEF

Prevention of Measles

According to the Centers for Disease Control (CDC), as of April 24 there have been 844 confirmed cases of measles in the US in 2025; 11% of cases have resulted in hospitalization and 3 patients have died. The majority of cases (96%) have been in unvaccinated persons or in those whose vaccination history was unknown.[1]

TRANSMISSION — The measles virus can be transmitted by direct contact with or airborne exposure to infectious droplets. Importation of measles by international travelers has led to outbreaks in the US, primarily in unvaccinated persons.

RECOMMENDATIONS — No antiviral drugs have been approved by the FDA for treatment or prevention of measles. The live-attenuated MMR (measles, mumps, rubella) vaccine [or the MMRV (measles, mumps, rubella, varicella) vaccine in children 12 months-12 years old], offers the best protection against measles; one dose is 93% and two doses are 97% effective in preventing infection.[2]

Children — The Advisory Committee on Immunization Practices (ACIP) currently recommends 2 lifetime doses of an MMR vaccine for most individuals; the first dose should be given at 12-15 months of age and the second at 4-6 years (3 months after first dose is an alternative). Infants 6-11 months old who will be traveling internationally should receive one early dose of MMR vaccine before travel followed by the routine 2-dose series after their first birthday.[3] Due to current outbreaks in the US, some experts are recommending that infants 6-11 months old who live in or are traveling to an area in the US where an outbreak is occurring also receive an early dose.[3]

Adults — Adults born in the US before 1957 (1970 in Canada) can be considered immune to measles, mumps, and rubella. Adults who lack evidence of immunity (documentation of vaccination, laboratory evidence of immunity, previously vaccinated with the killed [or an unknown] measles vaccine used from 1963 to 1967) should receive one dose of MMR vaccine. Two doses of the vaccine, separated by at least 28 days, are recommended for adults without evidence of immunity who are at high risk of exposure to or transmission of measles or mumps, including students in postsecondary educational institutions, international travelers, and household contacts of immunocompromised persons.[4,5] Healthcare workers of any age should be evaluated for evidence of immunity.

CONTRAINDICATIONS TO VACCINATION — Because MMR is a live vaccine, it is contraindicated for use in pregnant women and in adults with severe immunodeficiency. The vaccine should not be given to persons with a history of anaphylaxis to neomycin (*M-M-R II* and *Priorix*) or hypersensitivity to gelatin *(M-M-R II)*.

VACCINE ADVERSE EFFECTS — Pain and erythema at the injection site, fever, rash, and transient arthralgia are common following MMR vaccination. Few adverse events have been reported with a third dose of MMR vaccine. Anaphylactic reactions and thrombocytopenic purpura have occurred rarely following MMR vaccination.[4] ■

1. CDC. Measles cases and outbreaks. April 25, 2025. Available at: https://bit.ly/42IrS0S. Accessed May 1, 2025.
2. CDC. Measles vaccination. January 17, 2025. Available at: https://bit.ly/3RtNIjK. Accessed May 1, 2025.
3. B Rader et al. Revising US MMR vaccine recommendations amid changing domestic risks. JAMA 2025; 333:1201.
4. HQ McLean et al. Prevention of measles, rubella, congenital rubella syndrome, and mumps, 2013: summary recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR Recomm Rep 2013; 62(RR-4):1.
5. E Krow-Lucal et al. Measles, mumps, rubella vaccine (PRIORIX): recommendations of the Advisory Committee on Immunization Practices – United States, 2022. MMWR Morb Mortal Wkly Rep 2022; 71:1465.

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