

## UMass Memorial Health Care: Measles Information – May 2019

The recent reports from the CDC regarding the recent [increase in reported measles cases](#) has prompted a significant level of concern in our patient population as to whether or not they are immune to measles and if they should be immunized. This memorandum has been prepared with input from the Massachusetts Department of Public Health to provide general information to address these concerns.

At this time the following points can be made:

### **BACKGROUND**

The incidence of measles in the United States has been extremely low in the last 30 years due to a very effective two-dose anti-measles vaccination program. However, as of April 29, 2019 there have been 704 cases of confirmed measles in the US in 2019; with 71% in unvaccinated persons. The majority of the cases (88%) were in underimmunized close-knit communities, and there have been only five confirmed cases in all of New England, and only one in in Massachusetts.

However, with the increasing number of cases of measles nationwide, the Massachusetts Department of Public Health is requesting that we assess patients and staff for immunity to measles and recommend vaccination of patients lacking evidence of immunity assuming there are no contraindications.

(<https://www.mass.gov/files/documents/2019/04/18/mdph-clinical-measles-alert.rtf>)

### **HEALTH INSURANCE**

While health insurance should cover the cost of immunization for individuals lacking evidence of immunity, some insurers may not be covering the cost of the vaccine in adults who have immunity and who are not considered at high risk. Patients may want to check on insurance coverage before receiving the vaccine.

### **MMR**

The only available preparations for measles immunization are the measles-mumps-rubella (MMR – licensed for persons -  $\geq$  6 months) and measles-mumps-rubella-varicella vaccine (MMRV – only licensed for children 12 months through 12 years). The standard MMR immunization recommendations are on the final page of this memorandum.

### **CDC**

The CDC is now recommending that health care providers should vaccinate persons without acceptable evidence of immunity to measles and without contraindications before travel to any country outside the United States. Acceptable presumptive evidence of immunity against measles includes at least one of the following:

- Written documentation of adequate vaccination: one or more doses of a measles-containing vaccine administered on or after the first birthday for preschool-age children and adults not at high risk (following an exposure those with one dose need a second dose ASAP)
- Two doses of measles-containing vaccine for school-age children and adults at high risk, including college students, healthcare personnel, and international travelers
- Laboratory evidence of immunity
- Laboratory confirmation of measles
- Birth before 1957 (cannot be used as evidence of immunity for health care providers)

## SCREENING

Serologic screening for measles immunity before vaccination is not necessary and not recommended if a person has other acceptable evidence of immunity to these diseases. In addition, commercial tests may not be sensitive enough to reliably detect vaccine-induced immunity. It may be more straightforward to simply immunize individuals who have an uncertain immune status than try to test for immunity and then immunize those who lack immunity.

Similarly, serologic testing after vaccination is not recommended because commercial tests may not be sensitive enough to reliably detect vaccine-induced immunity.

## CONTRAINDICATIONS

The contraindications to the measles vaccine are:

- People who have severe allergies to gelatin, the drug neomycin or a previous dose of the vaccine.
- Pregnant women or women who are trying to get pregnant within 4 weeks should not get MMR vaccine until after they deliver their babies.
- People with a severe immunodeficiency (e.g., from hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, or long-term immunosuppressive therapy – **including biologic agents for dermatologic, GI, or rheumatic disease** — or patients with human immunodeficiency virus [HIV] infection who are severely immunocompromised).

## MANAGEMENT OF POSSIBLE CASES OF MEASLES

- Early symptoms of measles occur 10 days to two weeks after exposure and may resemble a cold (with fever, cough, runny nose, and red eyes) and a rash occurs on the skin 2-4 days after the initial symptoms develop. The rash usually appears first on the head and then moves downward. The rash typically lasts a few days and then disappears in the same order. At the onset of the rash characteristic white spots appear on the buccal mucosa (Koplik spots). People with measles may be contagious up to four days before the rash appears and for four days after the day the rash appears.
- Should a patient call with a concern that they have measles after they have been travelling internationally or been potentially exposed to someone with measles:
  - They should be advised to avoid all public activities until they can be evaluated
  - Arrangements should be made to have them to be in a setting where airborne precautions can be instituted (in general this will mean referral to an Emergency Department) and that facility should be notified in advance of the referral so that airborne precautions can be instituted immediately upon their arrival.
- Any suspected case of measles should be immediately reported to the local health department and the Massachusetts Department of Public Health at 617-983-6800.
- When there is a confirmed case of measles in Massachusetts, to the extent possible the Massachusetts Department of Public health works with community partners to notify those exposed as soon as possible. In a health care setting, the facility will usually take the lead in notification of patients, by phone, email and text message. For public settings, MDPH will put out press releases as to where individuals could potentially be exposed to the infected individual (e.g. <https://www.mass.gov/news/state-health-officials-alert-residents-about-potential-exposure-to-measles-in-multiple>).
- Individuals who may have been exposed to a confirmed case who are not immune and who do not have contraindications to the receipt of the vaccine should be immunized as soon as

possible after the exposure, to prevent additional cases and to avoid the need for quarantine. Routine MMR vaccination recommendations are provided at the end of the memo. Contact the infectious disease service for management of an exposed individual who has contraindications to receipt of the vaccine.

## REFERENCES:

1. Patel M, Lee AD, Redd SB, et al. Increase in Measles Cases — United States, January 1–April 26, 2019. MMWR Morb Mortal Wkly Rep. ePub: 29 April 2019. <http://dx.doi.org/10.15585/mmwr.mm6817e1>
  2. CDC Measles website: <https://www.cdc.gov/measles/index.html>
  3. Massachusetts Department of Public Health Measles website: <https://www.mass.gov/service-details/measles>
  4. Massachusetts Department of Public Health April 17, 2019 advisory: <https://www.mass.gov/files/documents/2019/04/18/mdph-clinical-measles-alert.rtf>
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## Routine MMR Vaccination Recommendations:

### CHILDREN (Birth – 18 years)

#### Routine Vaccination with MMR

- 2-dose series: the first dose at 12–15 months, and the second at 4–6 years
- Dose 2 may be administered as early as 4 weeks after dose 1.

#### International Travel

- **Infants age 6–11 months:** 1 dose before departure; revaccinate with 2 doses at 12–15 months (12 months for children in high-risk areas) and dose 2 as early as 4 weeks later.
- **Unvaccinated children age 12 months and older:** 2-dose series at least 4 weeks apart before departure

### ADULTS

#### Routine Vaccination

- **No evidence of immunity\* to measles, mumps, or rubella:** 1 dose MMR (note: following an exposure a second dose of MMR is recommended ASAP).
- **Certain adults should receive two doses of MMR.** This includes healthcare personnel, students at post-secondary institutions (such as colleges and vocational schools), and international travelers.