

APRIL 26, 2017

**HEALTH ADVISORY****Health Care Providers Urged to Maintain a High Awareness for Measles**

Outbreaks of measles are occurring in Europe and the United States. Minnesota, specifically Hennepin County, is currently experiencing an outbreak of measles. As of April 24, 2017, there have been 20 confirmed cases in Somali children ages 0 to 5 years, 10 of whom have been hospitalized. So far, 16 of the 20 cases have been confirmed to be unvaccinated; the vaccination status of the remaining four cases has not yet been determined. Health care providers should maintain a high awareness for measles among febrile patients with rash, especially in those without two documented doses of MMR. If health care providers suspect measles, the case should be isolated following airborne precautions and reported to the NDDoH immediately.

**Diagnosis:**

Measles is an acute disease typically beginning with fever, cough, coryza and conjunctivitis. Three to five days later, a maculopapular rash develops lasting more than three days. The rash begins on the face at the hairline and spreads downward to the rest of the body. Patients presenting clinical symptoms compatible with measles should be asked about recent travel to Minnesota, as well as abroad, and about any contact with returning travelers. Measles cases have been initially misdiagnosed as Kawasaki disease, dengue and scarlet fever, among other conditions, so health care providers should consider measles in the differential diagnosis of these diseases.

The clinical case definition for measles is:

- A generalized, maculopapular rash lasting  $\geq$  three days,
- A temperature  $\geq$  101°F, and
- Cough, coryza or conjunctivitis (the three Cs).

**Transmission and Patient Management:**

If measles is suspected, airborne infection control precautions should be followed stringently. Suspected measles patients (i.e., people with febrile rash illness) should be removed from emergency departments and clinic waiting areas as soon as they are identified, placed in a private room with the door closed, and asked to wear a surgical mask. In hospital settings, patients with suspected measles should be placed immediately in an airborne infection (negative pressure) isolation room if one is available. If possible, they should not be sent to other parts of the hospital for examination or testing purposes.

*-continued-*

Measles transmission is primarily person to person via large respiratory droplets, but airborne transmission can occur. Respiratory droplets can remain infectious for approximately two hours in the environment. The incubation period for measles is usually eight to 12 days, although symptoms may occur as early as seven or late as 21 days after exposure. Infected individuals can spread measles from four days before through four days after the rash appears. They should be instructed to exclude themselves from any public settings during this time.

Because of the severity of the disease, people with measles commonly present to a physician's office or emergency room and pose a risk of transmission to other patients and health care personnel. Transmission risks can be minimized by ensuring that all health care personnel have evidence of measles immunity and that appropriate infection control practices are followed. Evidence of natural measles infection, measles immunity or receipt of two doses of measles vaccine should be documented for all health care workers. Health care facilities should recommend a dose of MMR vaccine for unvaccinated workers born before 1957 who are at risk for occupational exposure to measles, and who do not have a history of measles disease or laboratory evidence of measles immunity.

### **Laboratory Testing:**

IgM and PCR testing for measles is available from the North Dakota Department of Health (NDDoH) Division of Laboratory Services. IgM acute serum testing and a nasopharyngeal swab or urine collection for PCR testing should be sent to the lab at the onset of symptoms. These should be sent along with a completed laboratory slip indicating vaccination history. Specimens for rubella testing should be ordered simultaneously, as measles and rubella are clinically indistinguishable.

The simplest method of establishing the diagnosis of measles is to test for IgM antibodies on a single serum specimen obtained during the first encounter with a person suspected of having the disease. The sensitivity of measles IgM varies and may be diminished during the first 72 hours after rash onset. If the lab result is returned negative, but the patient has a generalized rash lasting more than 72 hours, the measles IgM test should be repeated. Travel to Minnesota, international travel, or contact with individuals who have recently traveled should be taken into account when considering a diagnosis of measles.

### **Vaccination:**

Vaccination status of patients should be verified. Two doses of measles vaccine, are routinely recommended for all children 12 months of age and older. MMR is routinely administered at 12 to 15 months of age and 4 to 6 years of age. Children are required to be age-appropriately vaccinated with MMR for entry into childcare, kindergarten through twelfth grade and college in North Dakota. Studies indicate that 99 percent of people who receive two doses of MMR are immune to measles. All adults born in 1957 and after should have documentation of at least one dose of MMR or other evidence of measles immunity. Birth before 1957 is considered acceptable evidence of immunity to measles for the general public.

*-continued-*

Susceptible individuals with a known or highly probable exposure, depending on timing and age, can be treated with MMR vaccine or IG to prevent or modify measles. MMR vaccine, if administered within 72 hours of initial measles exposure, may provide some protection. IG is indicated for susceptible household contacts of measles patients, particularly those with increased risk of complications and who cannot receive MMR vaccine (i.e., infants age 12 months or younger, pregnant women, or immunocompromised people). Vaccination should be offered at any interval following exposure to offer protection from future exposures. If administered within six days of exposure, IG can prevent or modify measles in a susceptible person. If IG is administered, health care providers should delay MMR vaccination for five months. IG should not be administered within two weeks of a prior MMR vaccination. More information about the Advisory Committee on Immunization Practices (ACIP) recommendations for measles vaccination and the elimination of measles can be found at <https://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/mmr.html>.

### **International Travel:**

Health care providers should encourage timely vaccination of everyone who plans to travel internationally and who don't have evidence of measles immunity. Infants ages six through 11 months should receive one dose of MMR vaccine. Two doses of MMR are recommended for travelers ages 12 months and older, with a minimum interval of four weeks between doses.

### **Reporting:**

Please heighten your suspicion of measles and report any suspect cases of measles immediately to the NDDoH. Do not wait for laboratory results to report suspected cases of measles. Timely reporting of suspected measles cases will allow the NDDoH to investigate cases and contacts, and make recommendations to reduce transmission in the community. As mandated by North Dakota law, any incidence of measles must immediately be reported to the NDDoH by phone at 701.328.2378 or toll-free at 800.472.2180 or by confidential fax at 701.328.0355.

For general information about measles, visit the NDDoH website at [www.ndhealth.gov/Disease/Documents/faqs/Measles.pdf](http://www.ndhealth.gov/Disease/Documents/faqs/Measles.pdf). Pictures of individuals with measles can be found at [www.cdc.gov/measles/about/photos.html](http://www.cdc.gov/measles/about/photos.html).

Please contact the NDDoH Division of Disease Control at 701.328.2378 or toll-free at 800.472.2180 with any questions or concerns regarding this issue.

*Categories of Health Alert messages:*

- *Health Alert conveys the highest level of importance; warrants immediate action or attention.*
- *Health Advisory provides important information for a specific incident or situation; may not require immediate action.*
- *Health Update provides updated information regarding an incident or situation; no immediate action necessary.*
- *Health Information provides general information that is not necessarily considered to be of an emergent nature.*

*This message is being sent to local public health units, clinics, hospitals, physicians, tribal health, North Dakota Nurses Association, North Dakota Long Term Care Association, North Dakota Healthcare Association, North Dakota Medical Association, and hospital public information officers.*